

FIG. 1

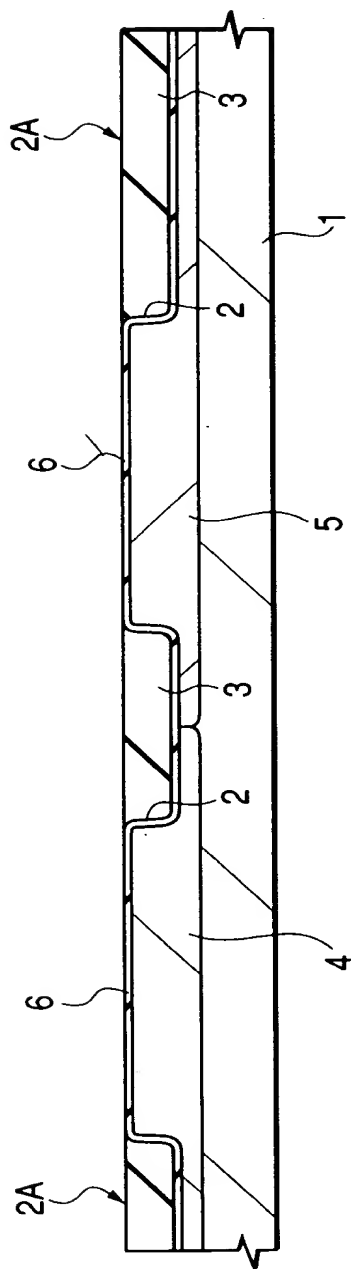


FIG. 2

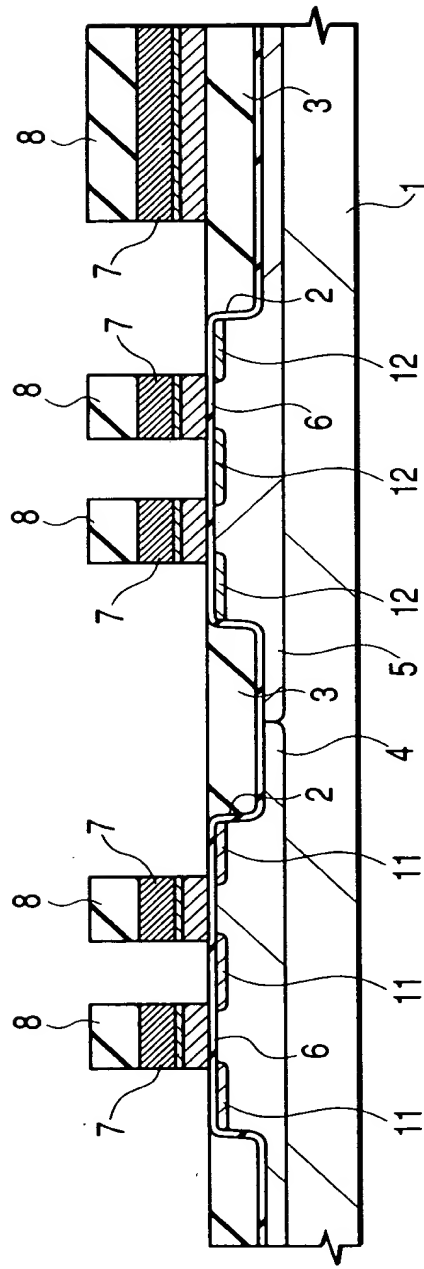


FIG. 3

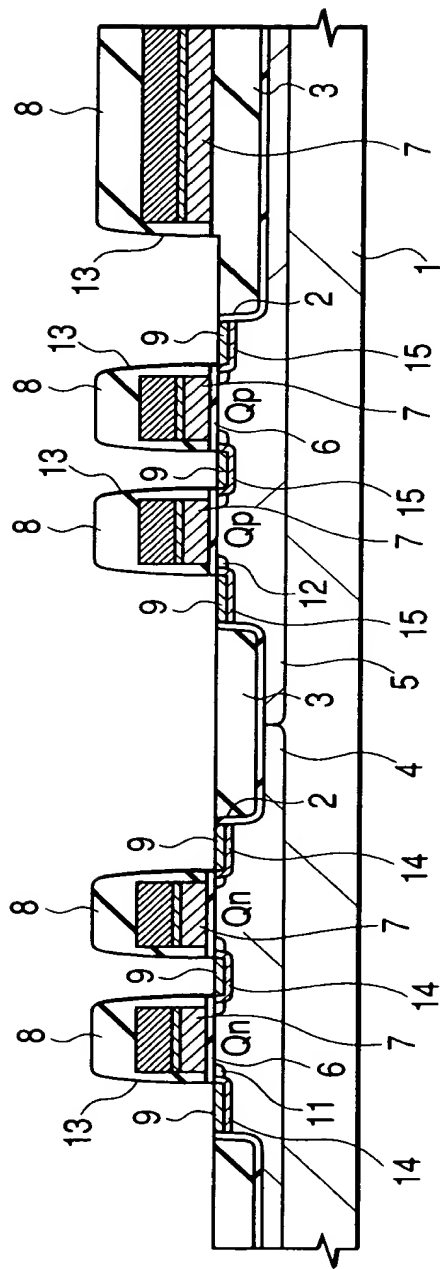


FIG. 4

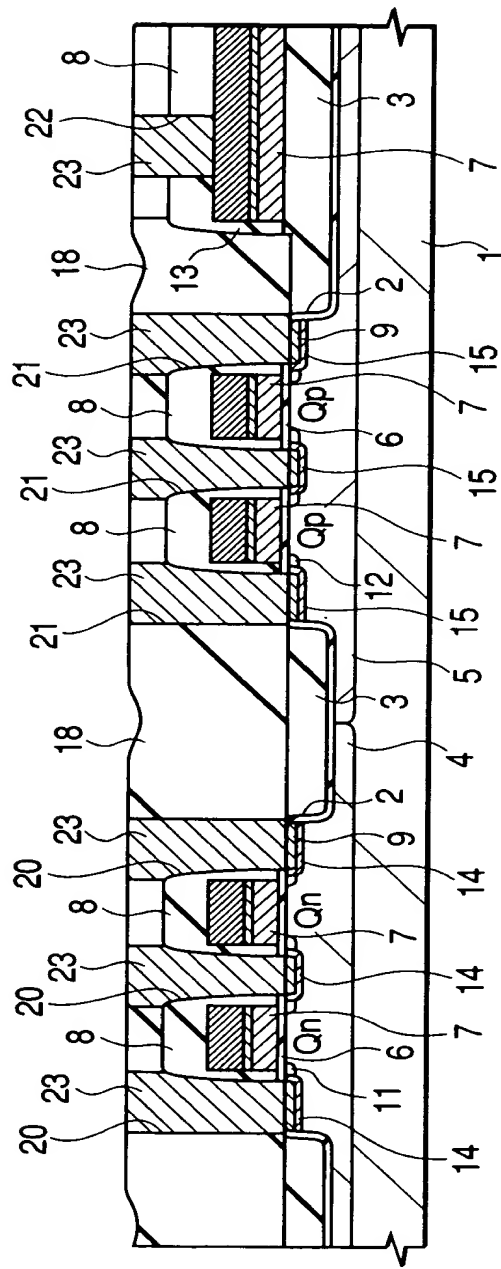
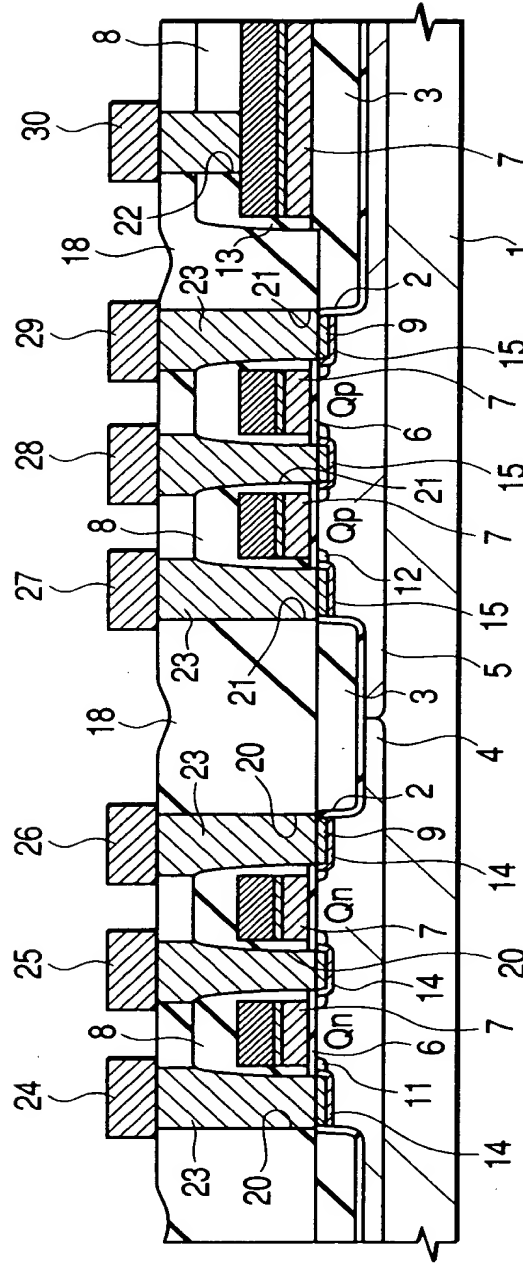


FIG. 5



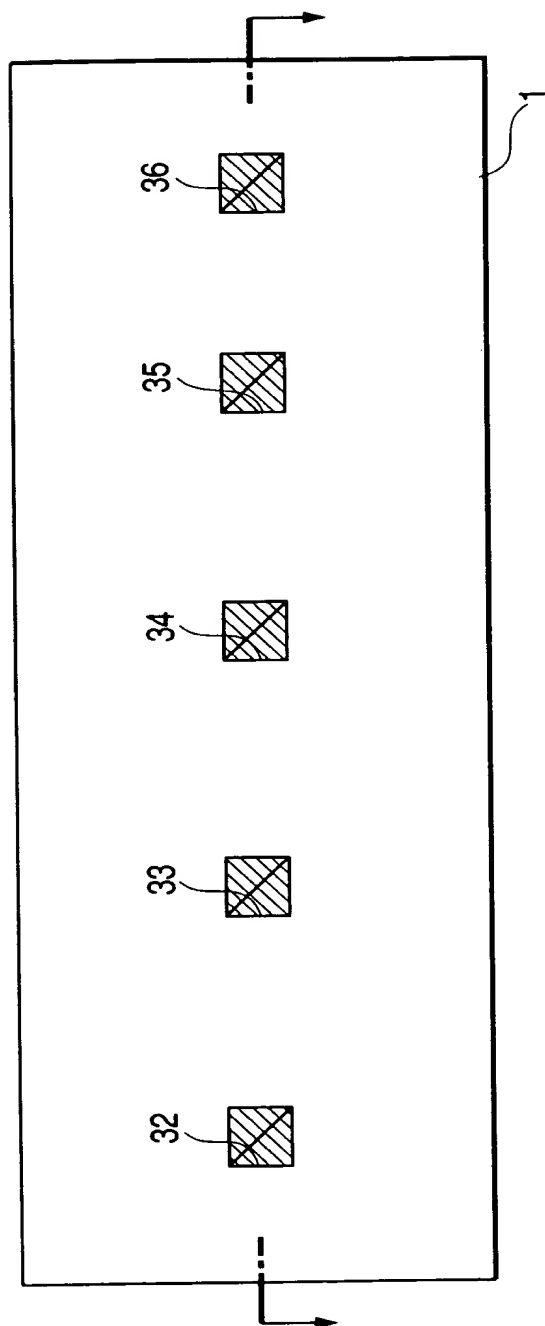
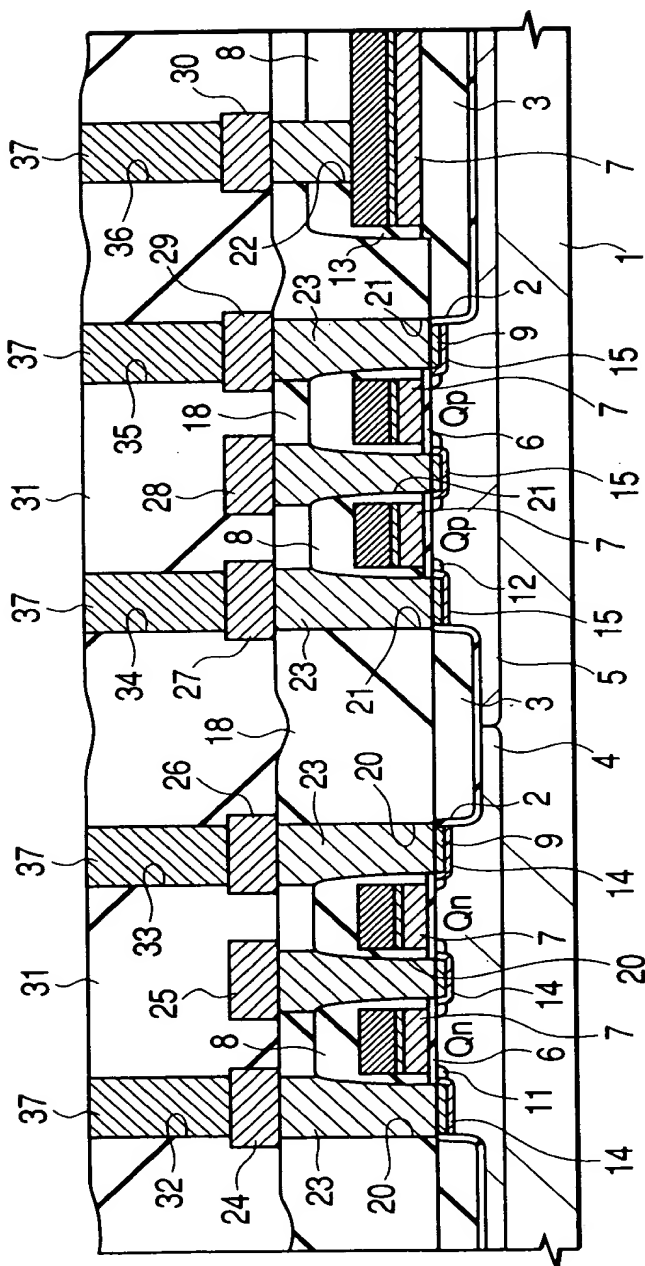


FIG. 6(a)



**FIG. 6(b)**





FIG. 9

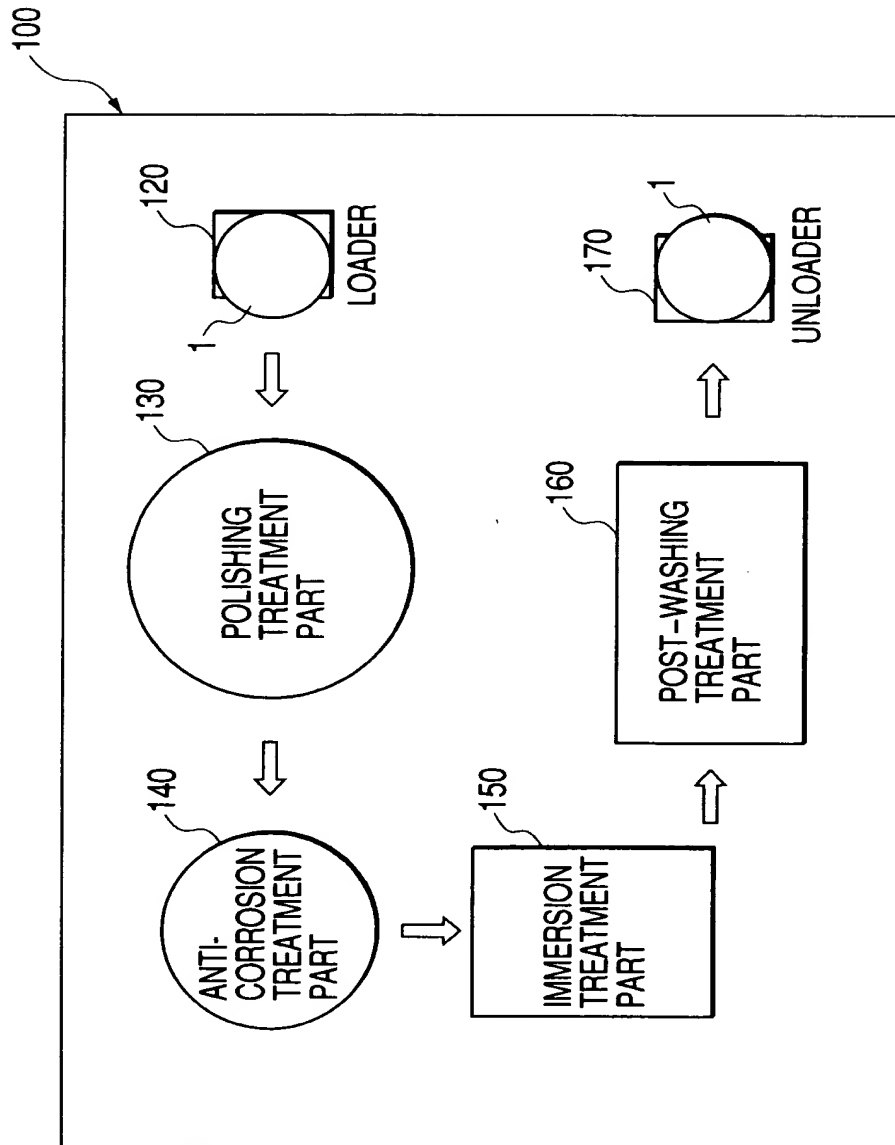


FIG. 10

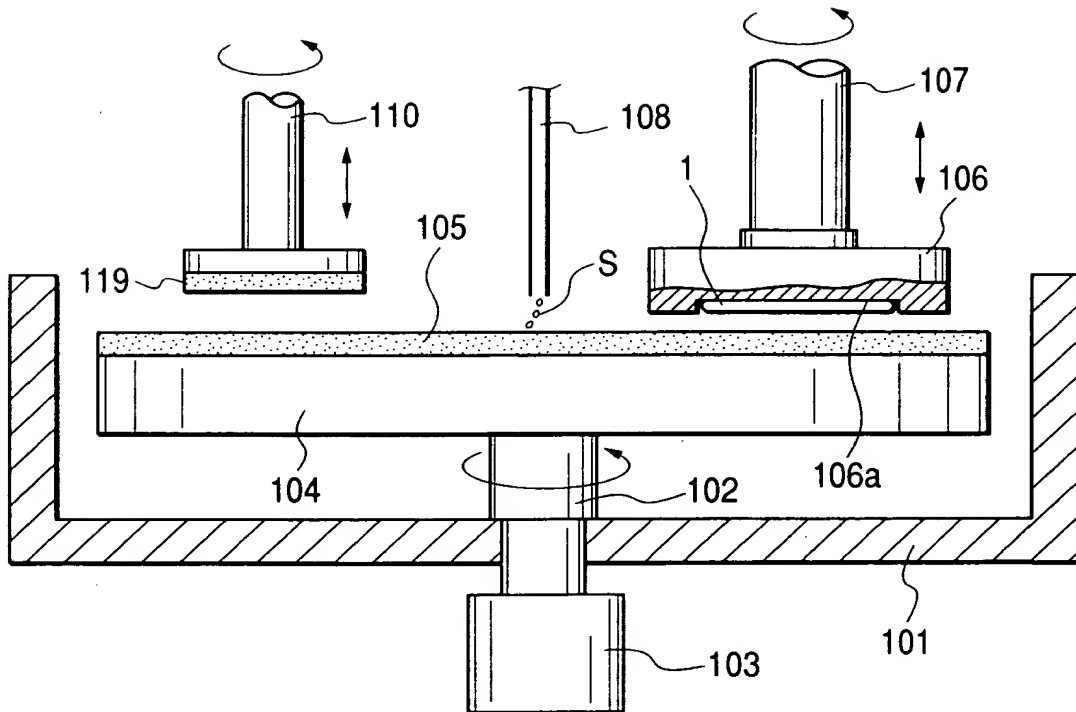


FIG. 10



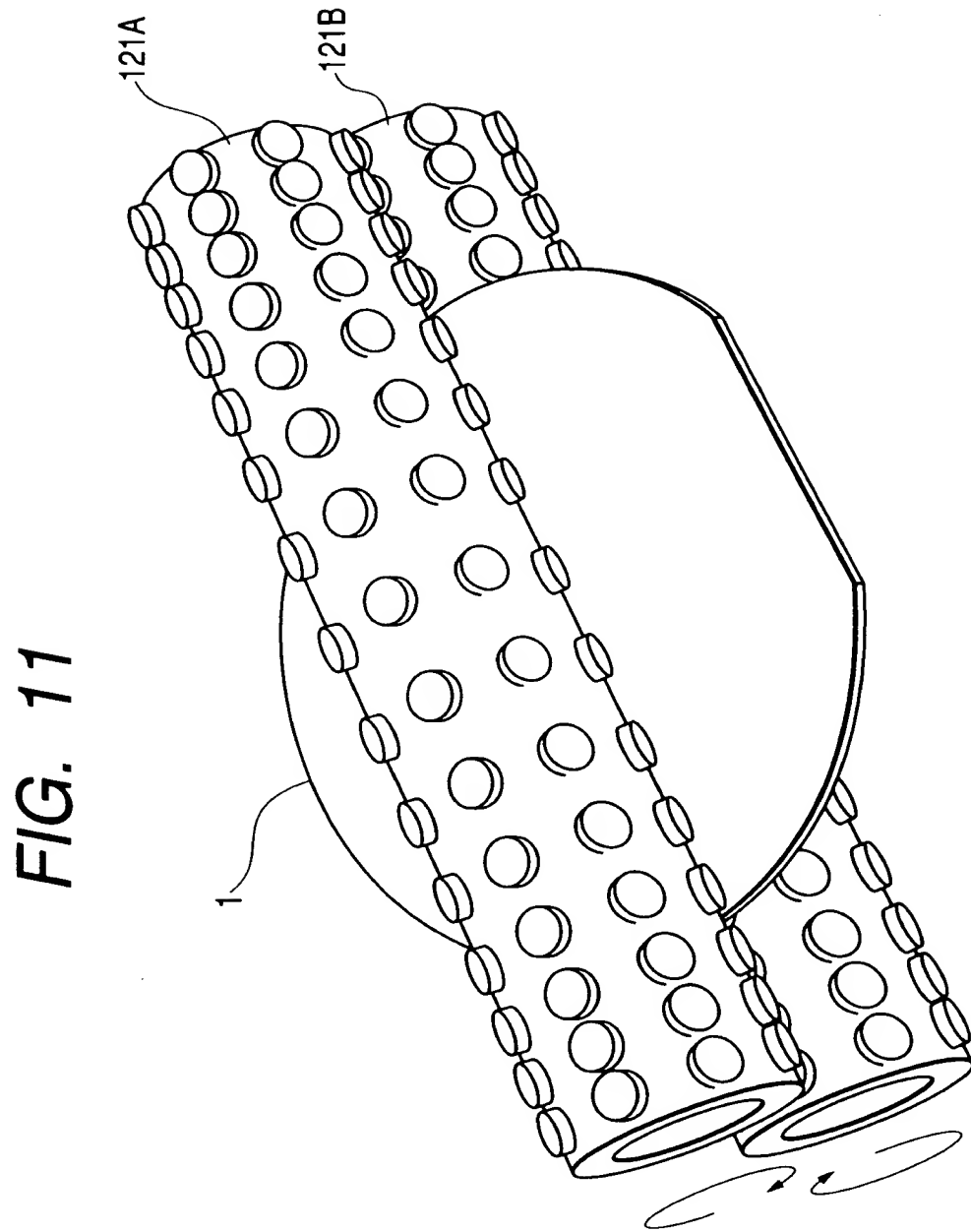


FIG. 12

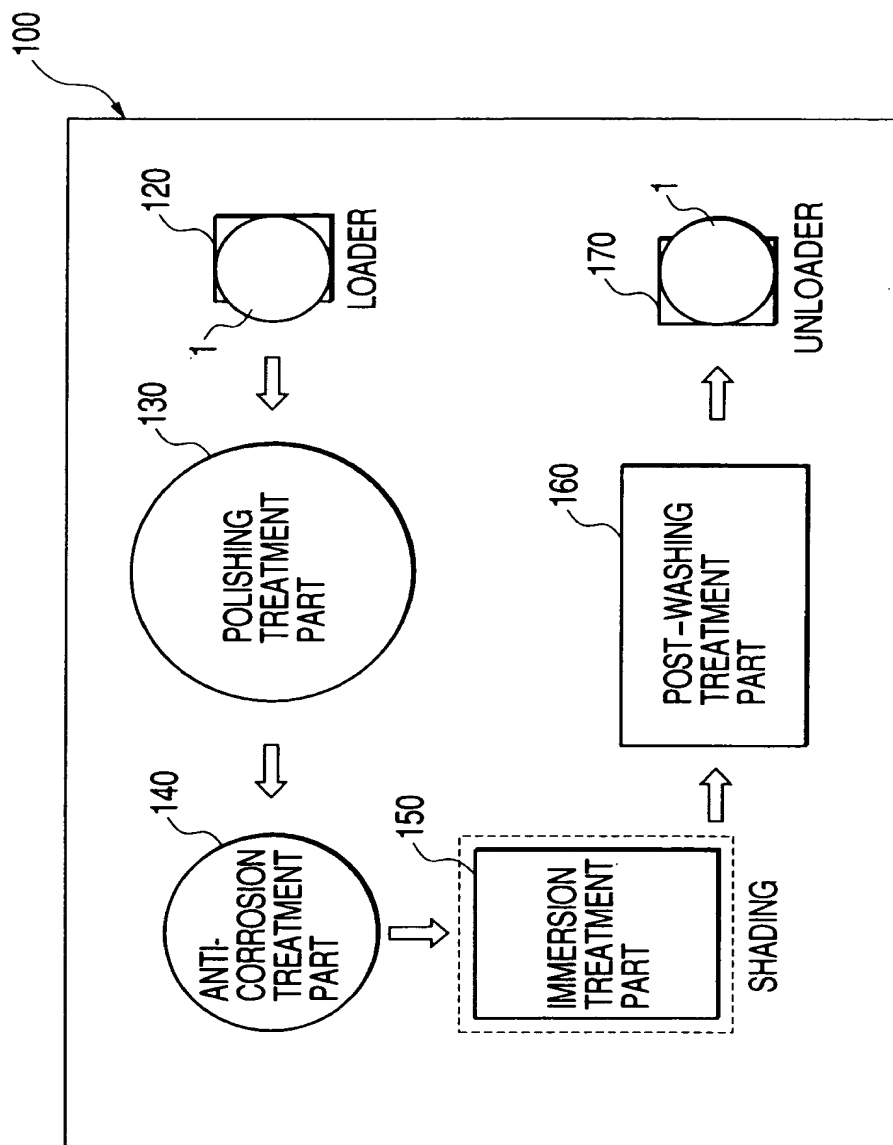


FIG. 13

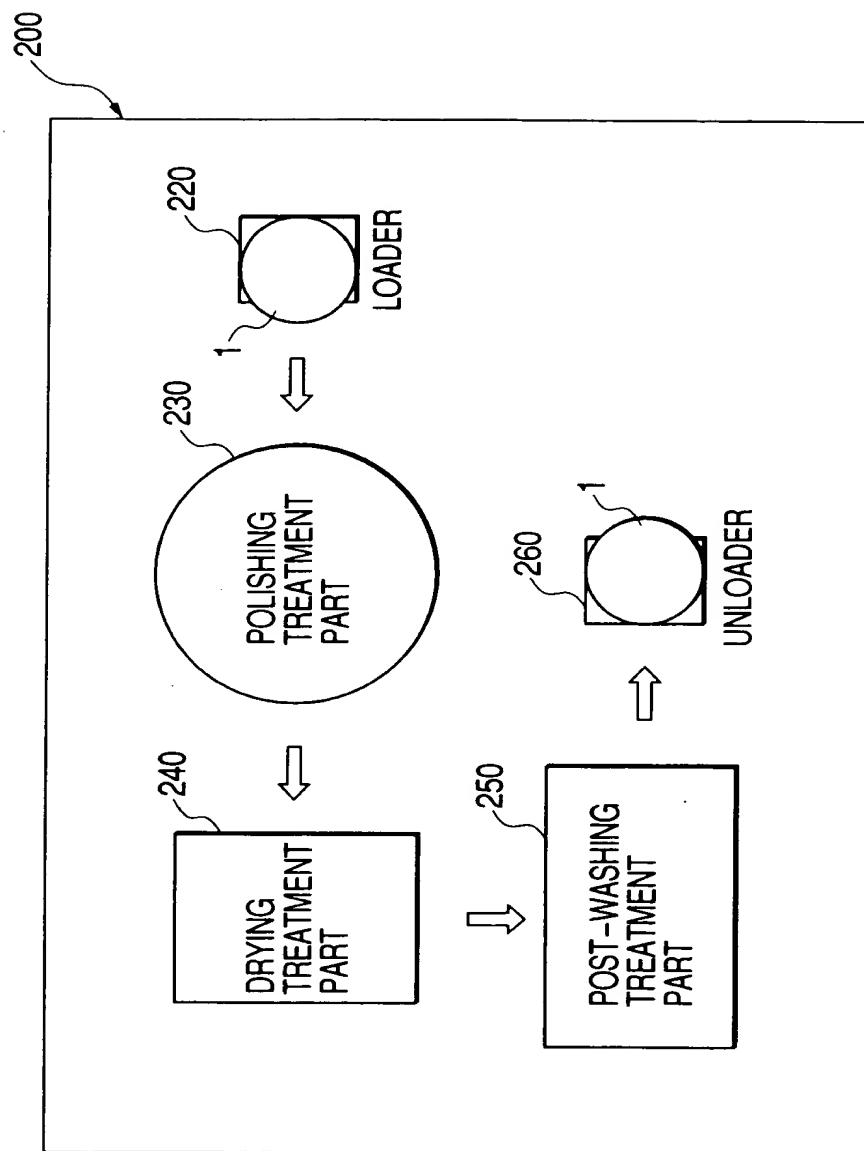


FIG. 14

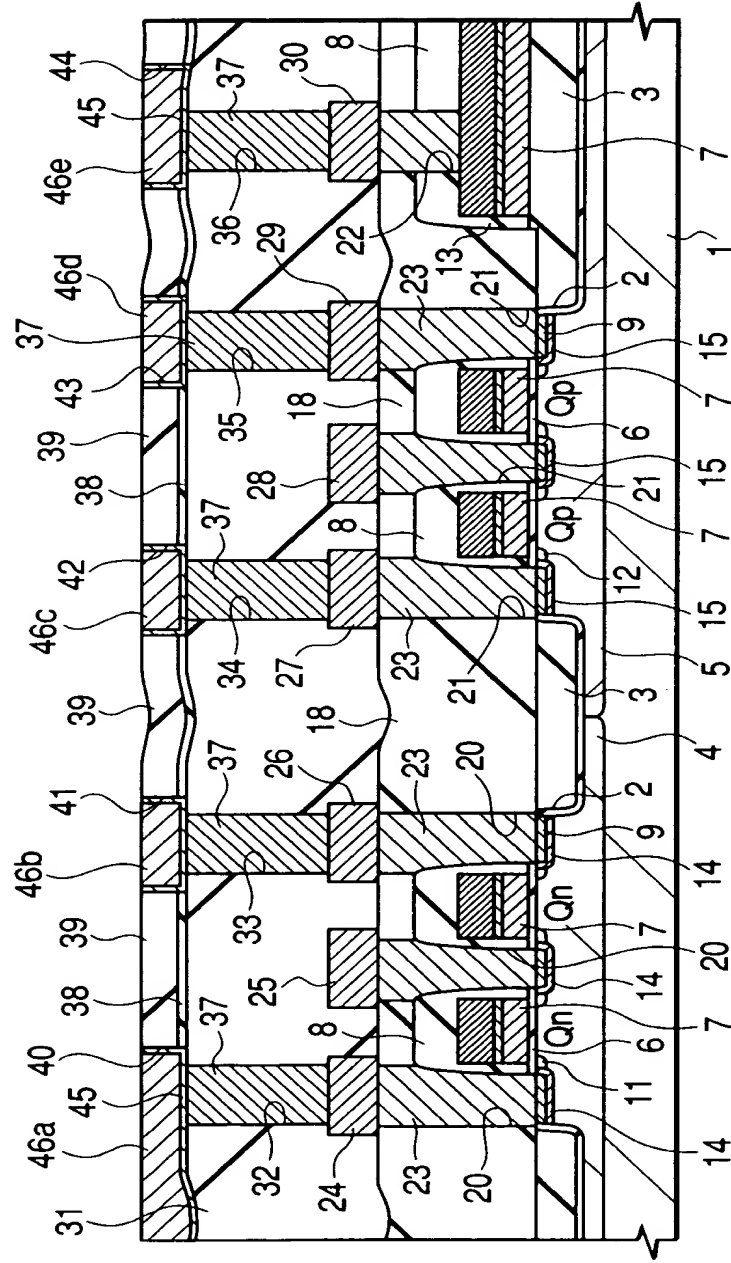


FIG. 15(a)

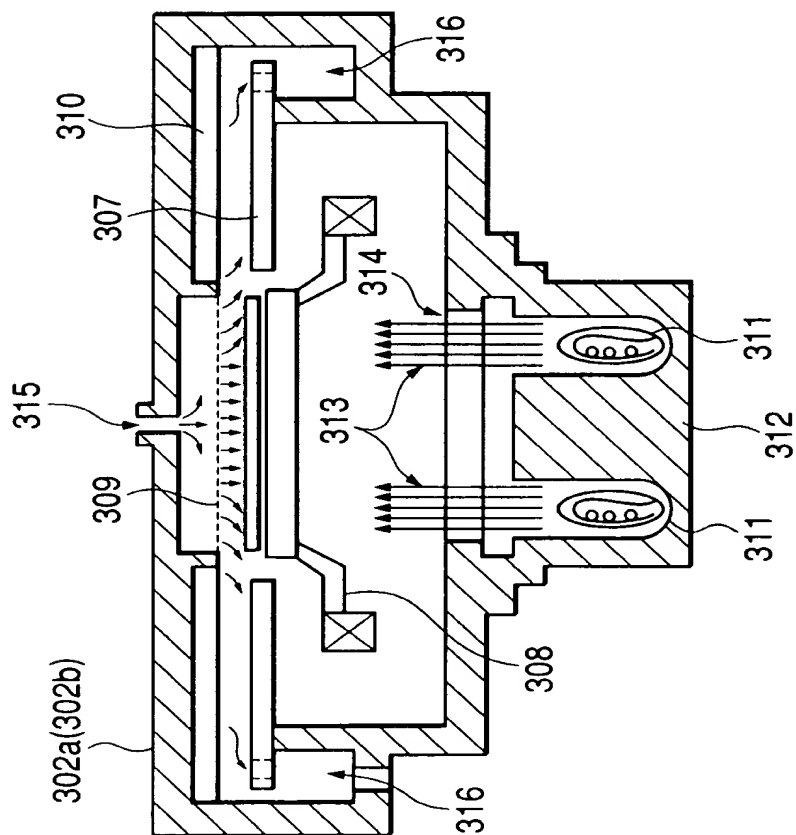


FIG. 15(b)

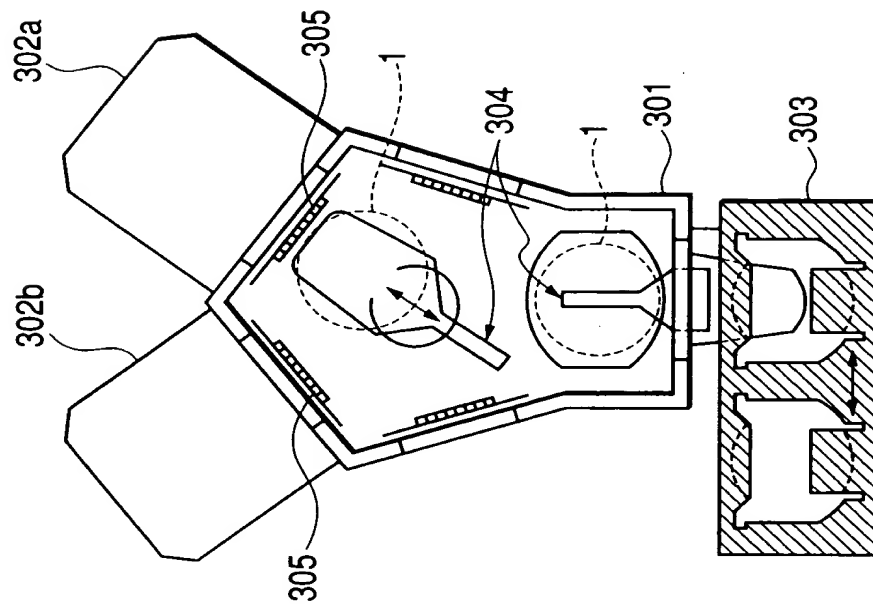


FIG. 16

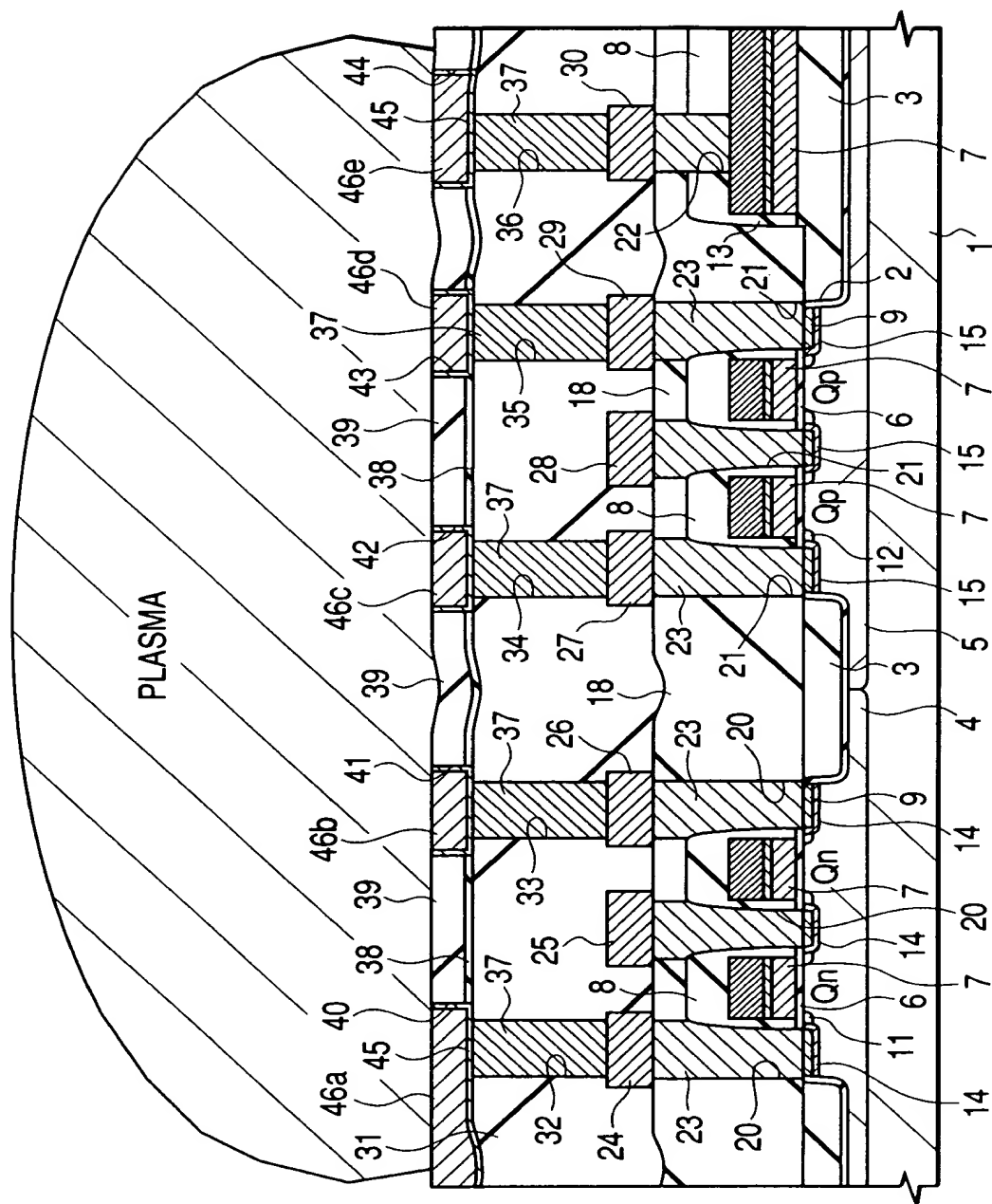
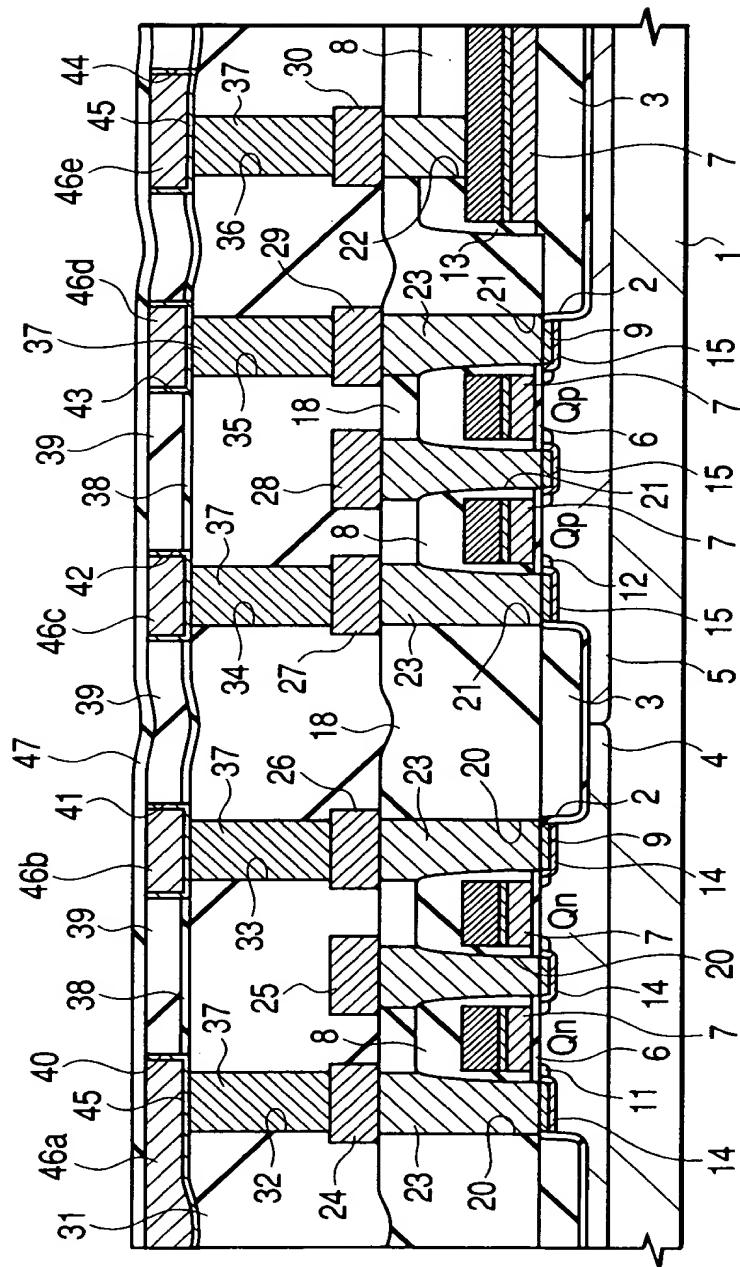
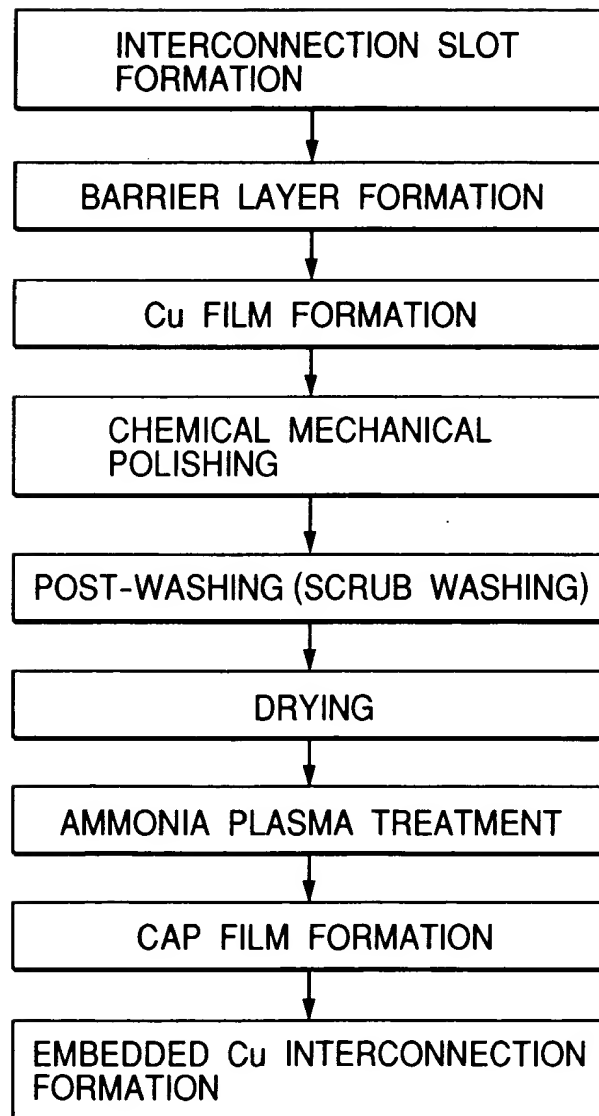


FIG. 17



*FIG. 18*



405070 9153200



FIG. 19

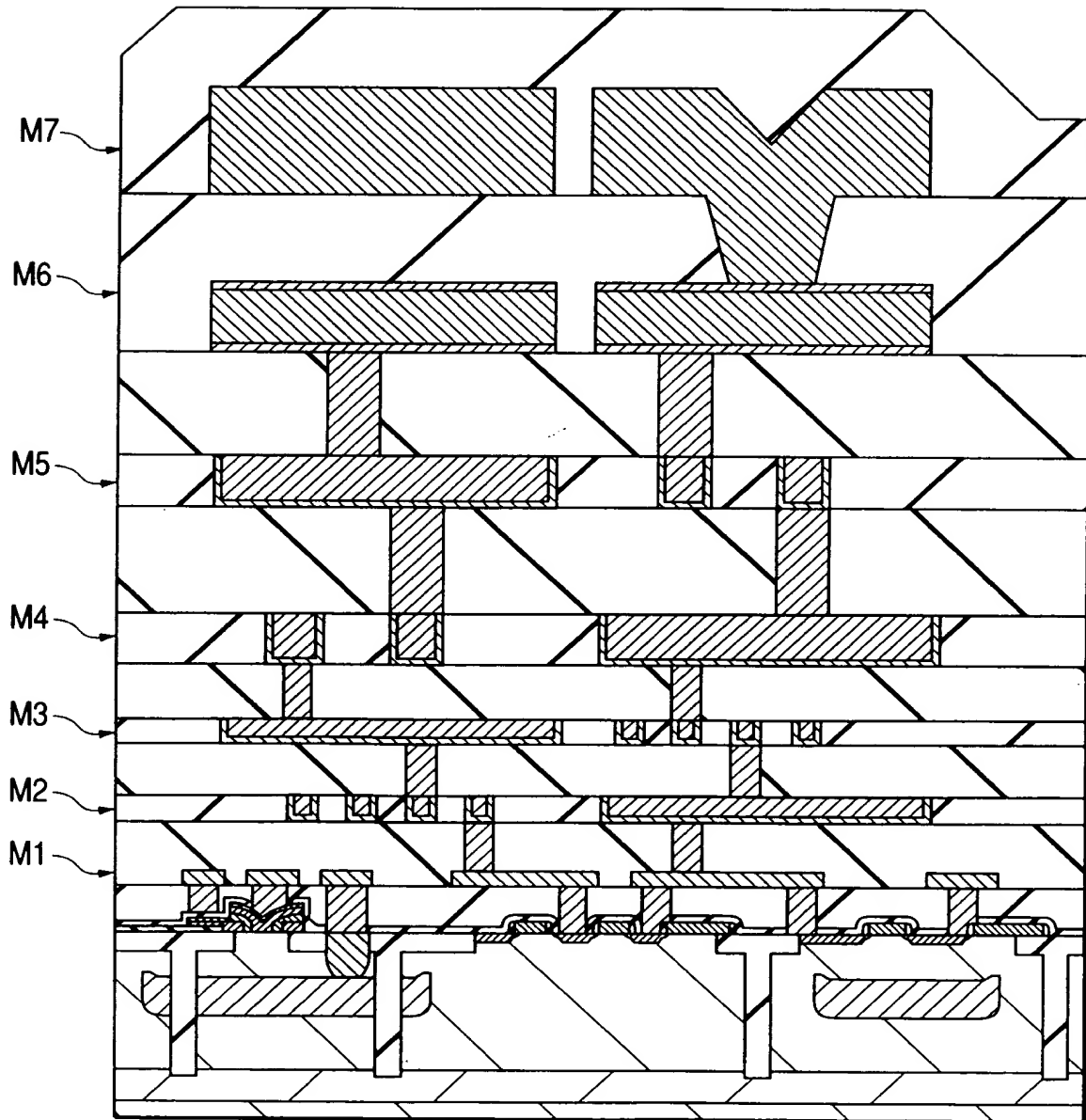


FIG. 19

FIG. 20

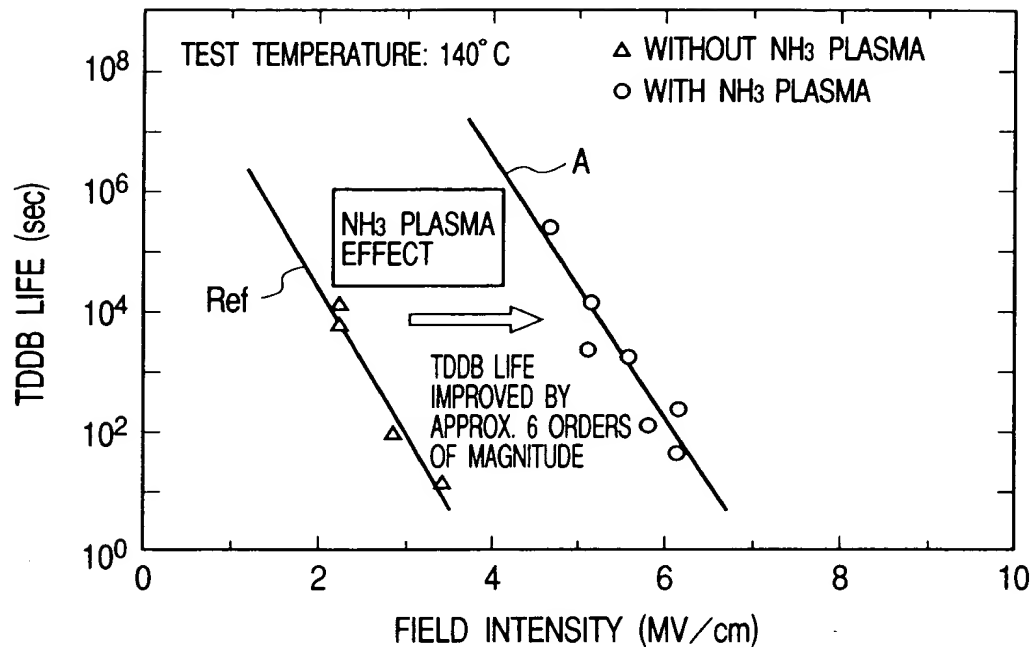


FIG. 21

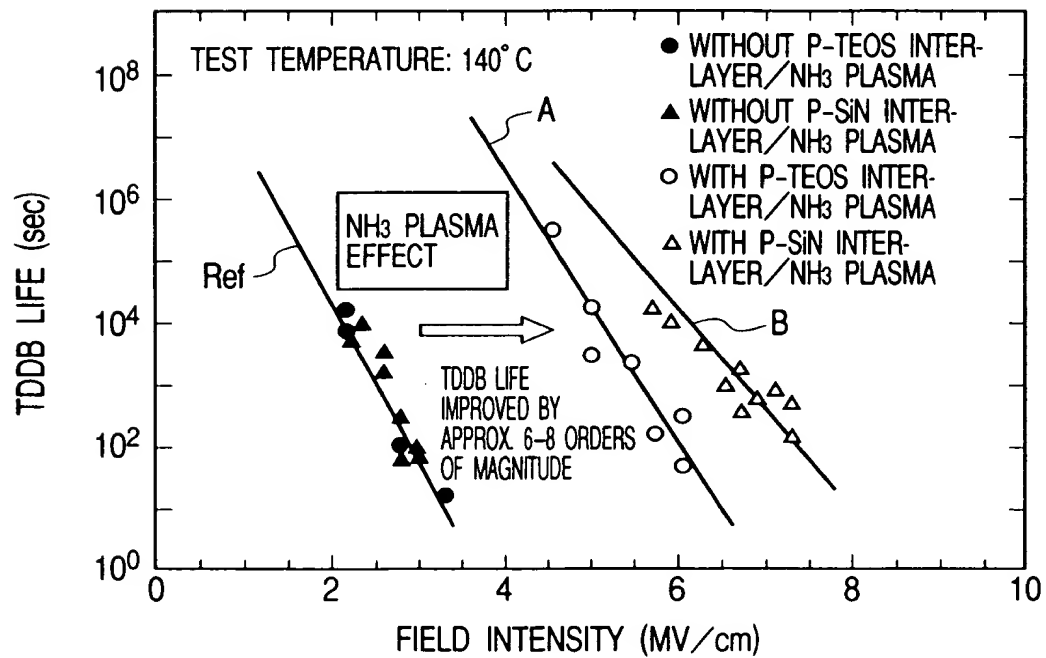


FIG. 22(a)

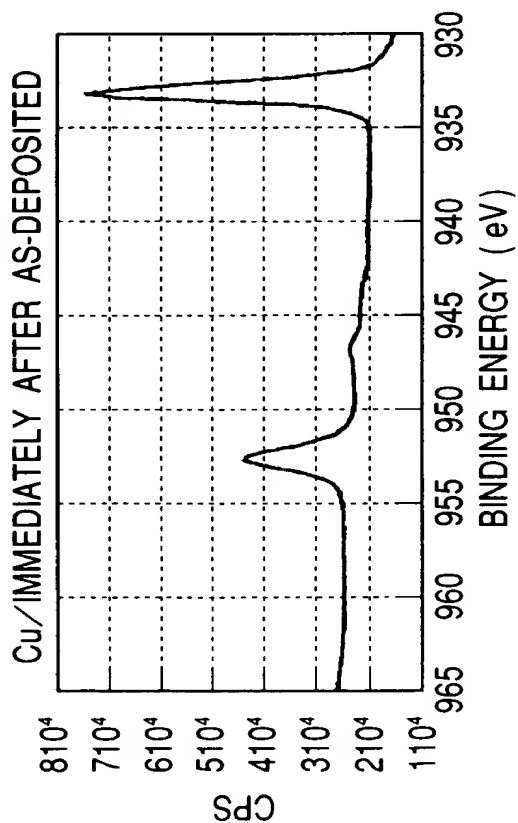


FIG. 22(b)

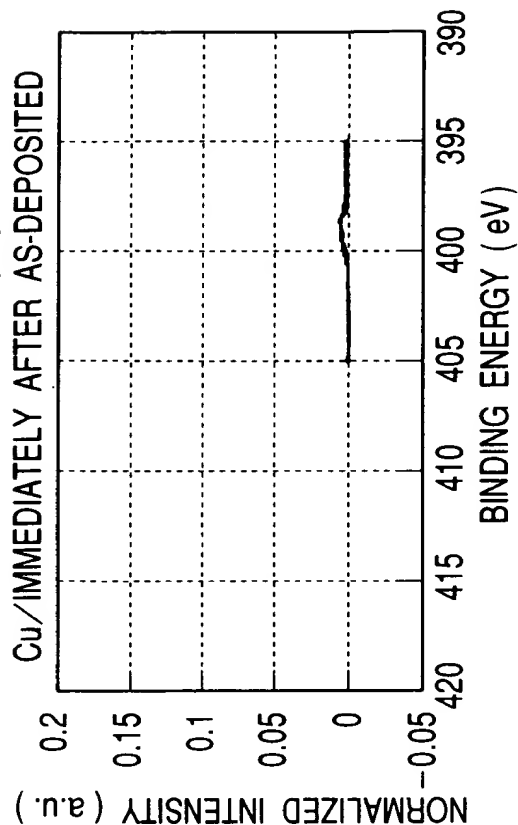


FIG. 22(c)

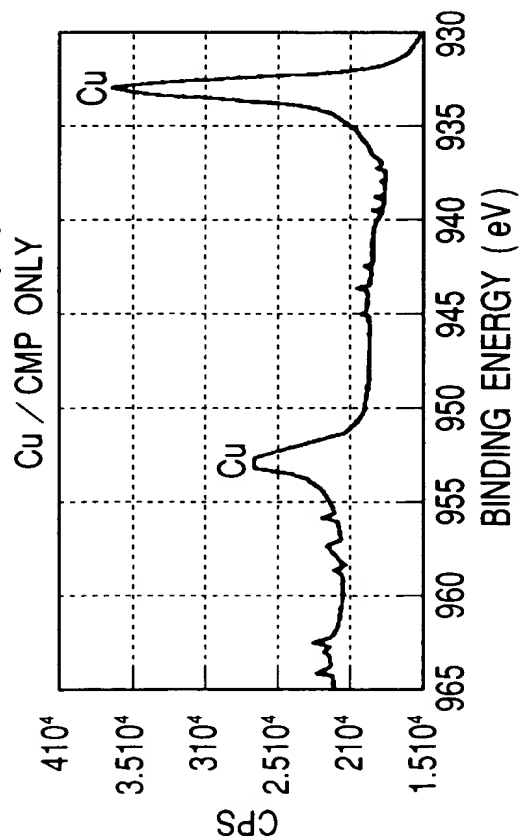


FIG. 22(d)

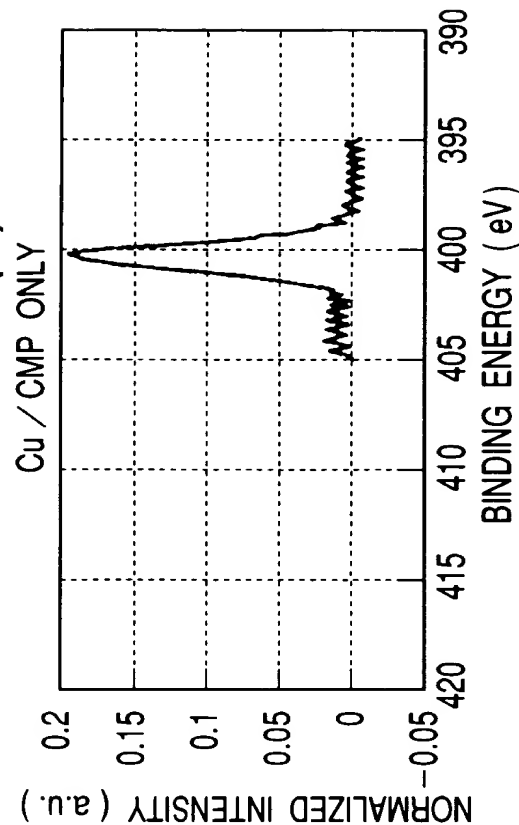


FIG. 23(a)

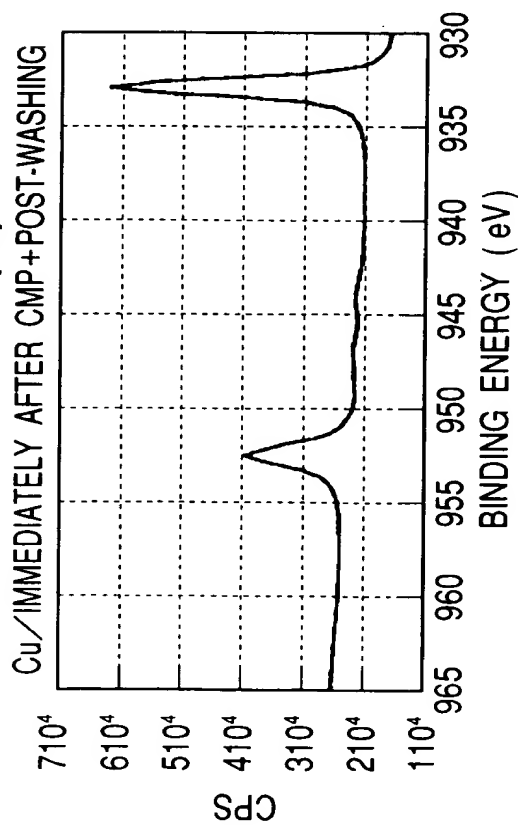


FIG. 23(b)

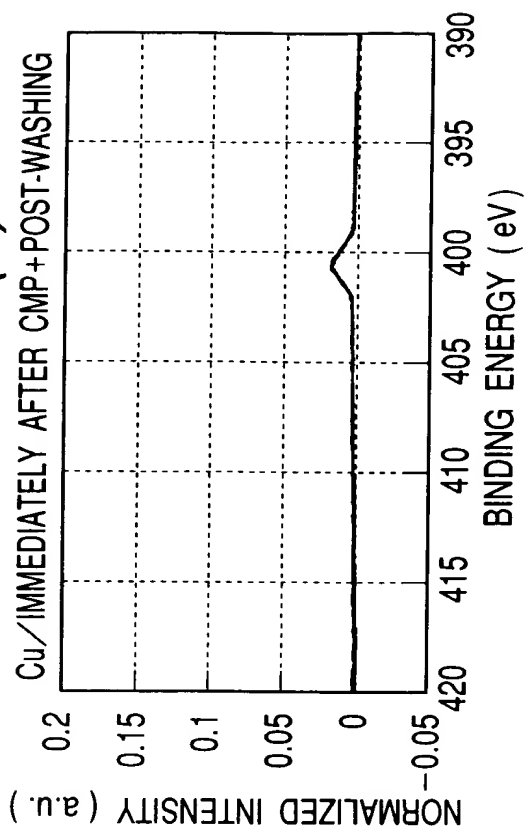


FIG. 23(c)

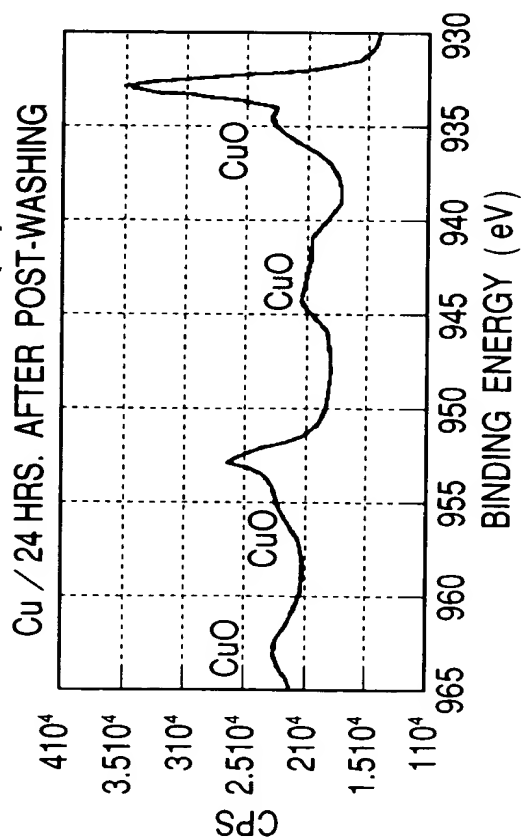


FIG. 23(d)

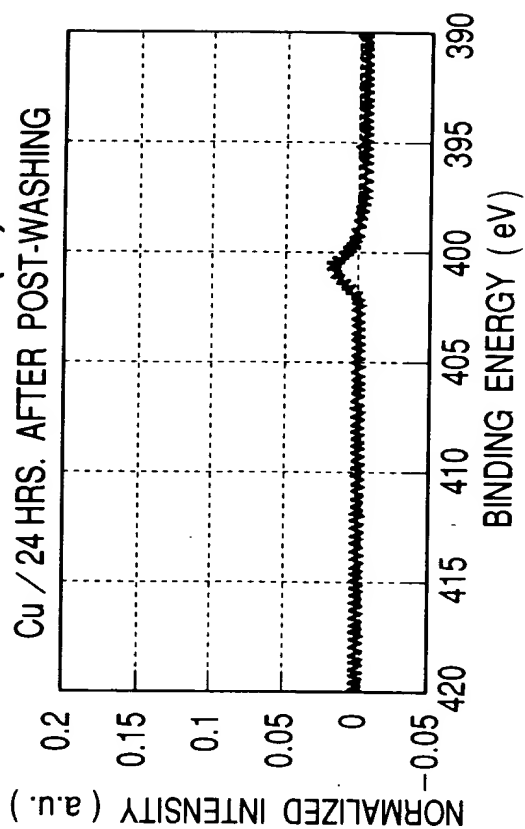


FIG. 24(a)

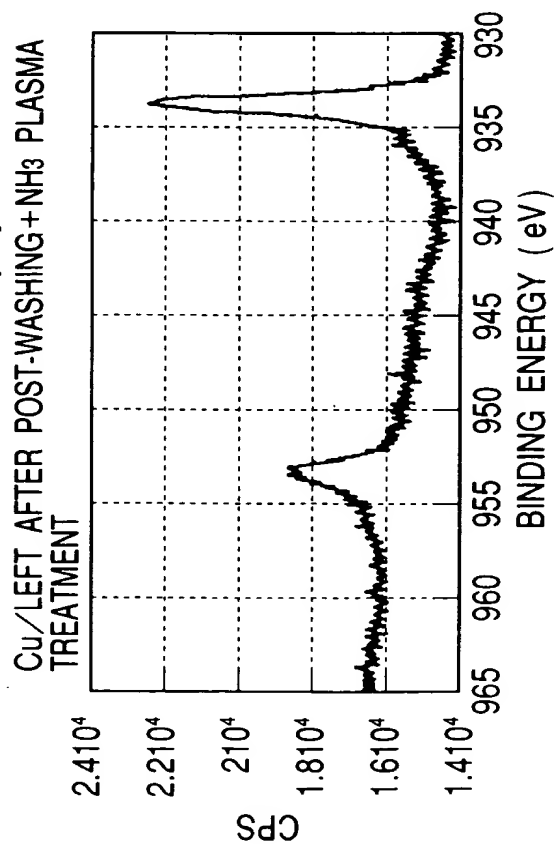


FIG. 24(b)

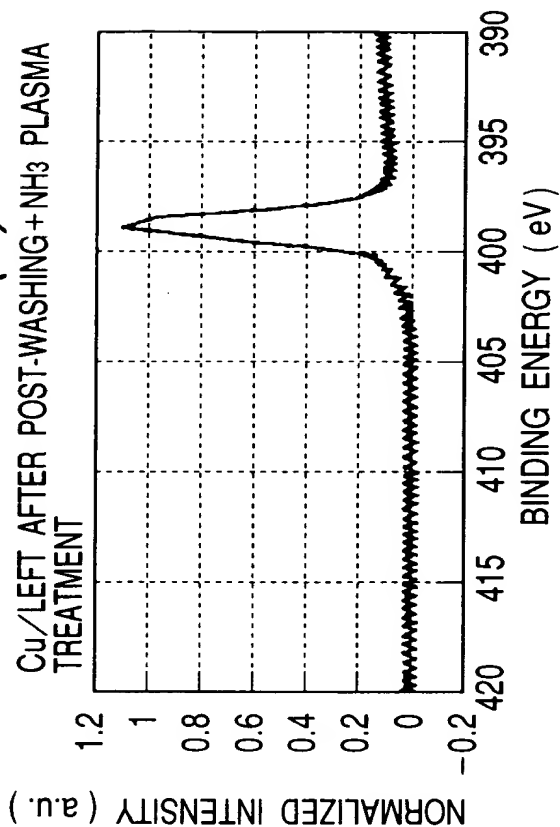


FIG. 24(c)

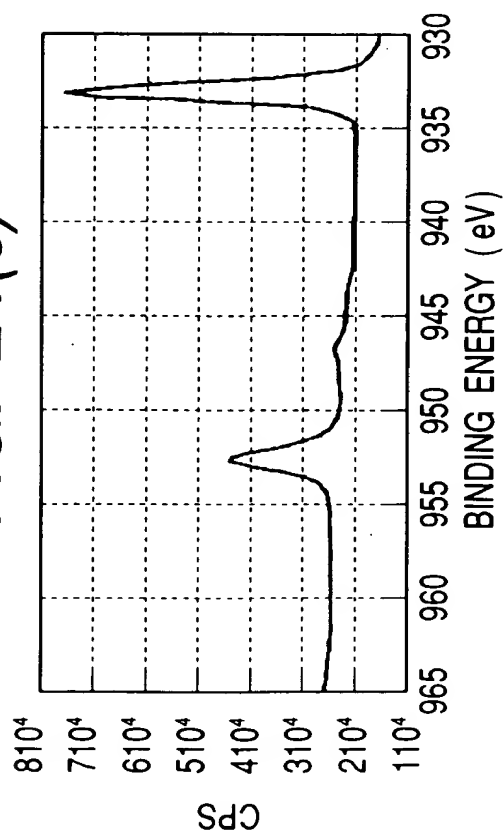
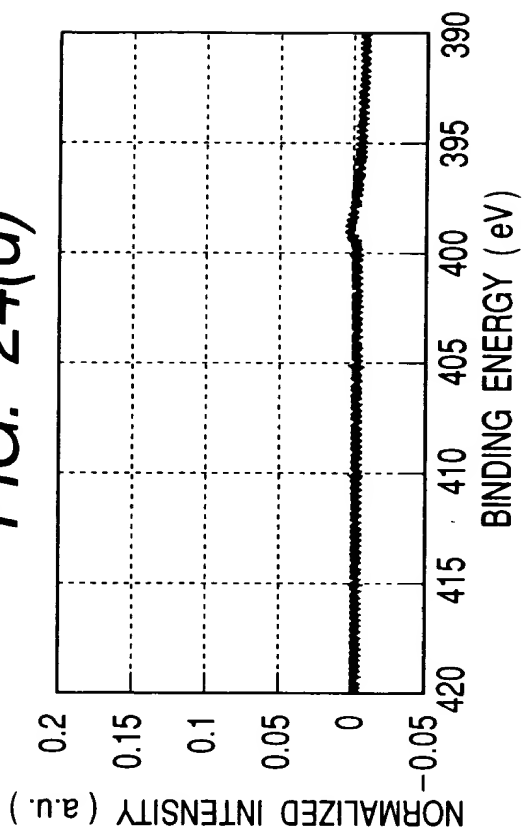
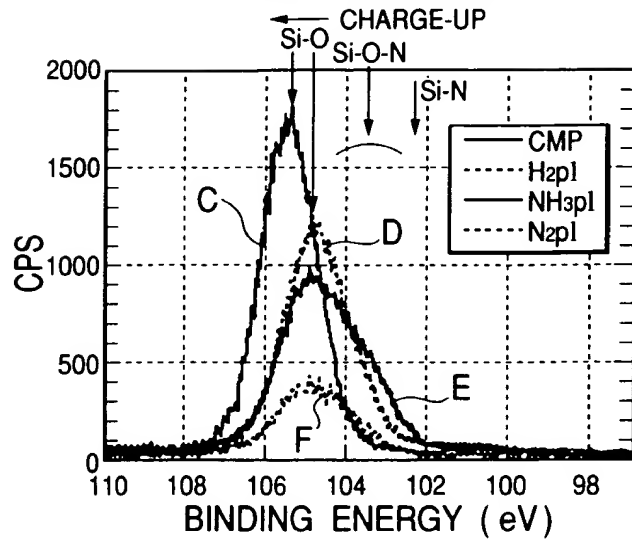
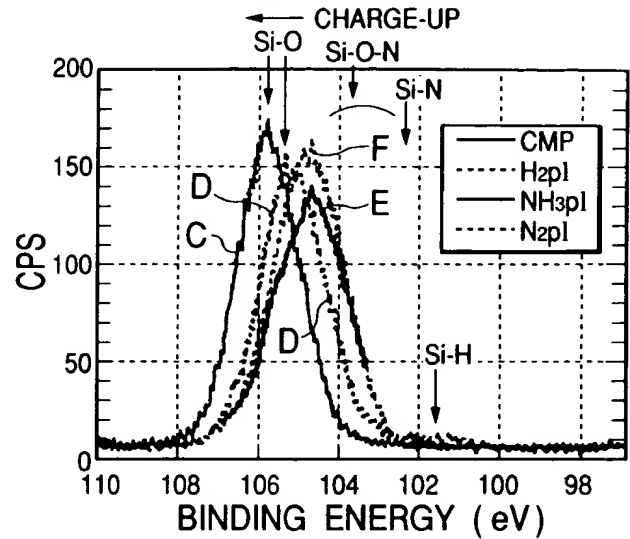
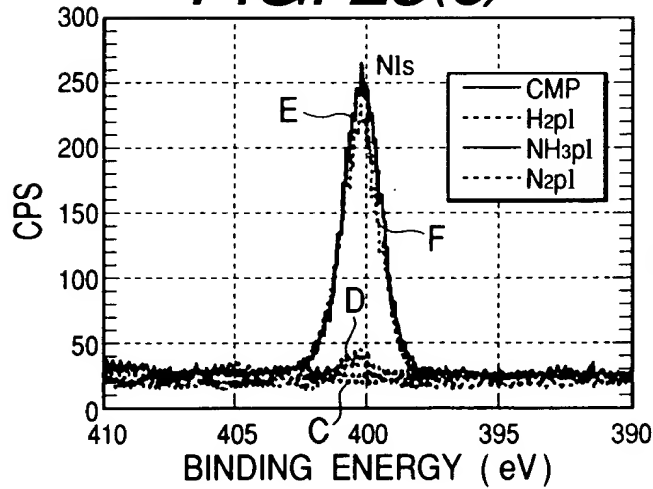
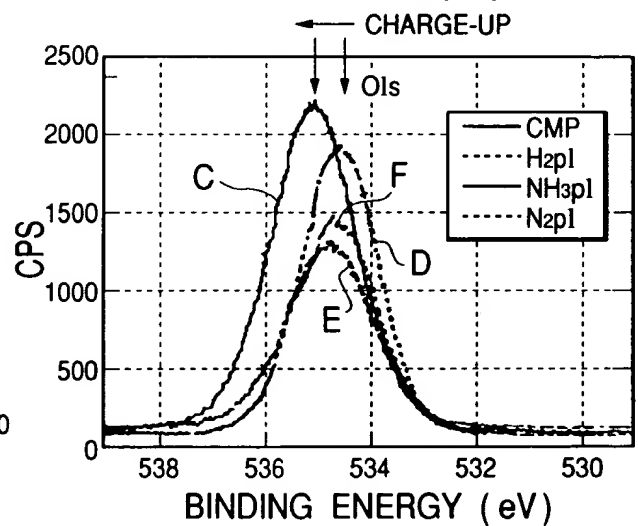
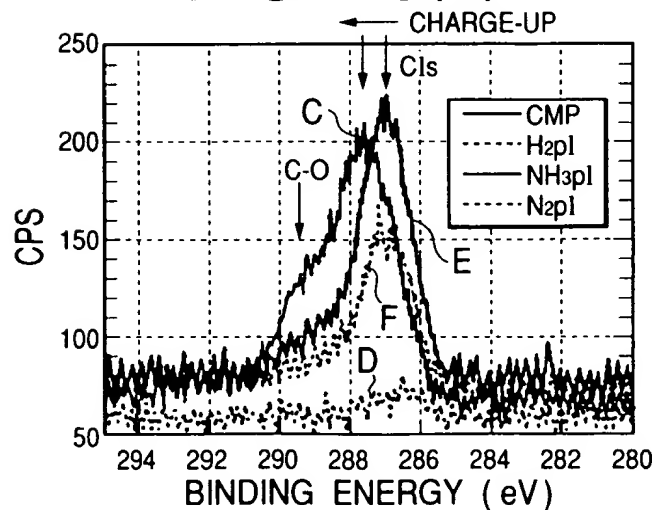


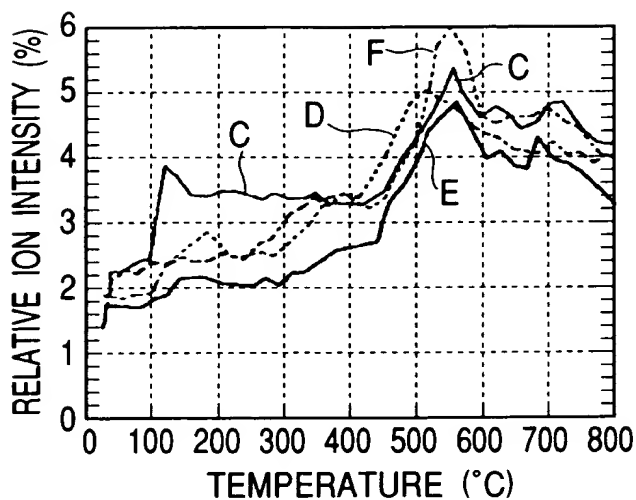
FIG. 24(d)



**FIG. 25(a)****FIG. 25(b)****FIG. 25(c)****FIG. 25(d)****FIG. 25(e)****FIG. 25(f)**

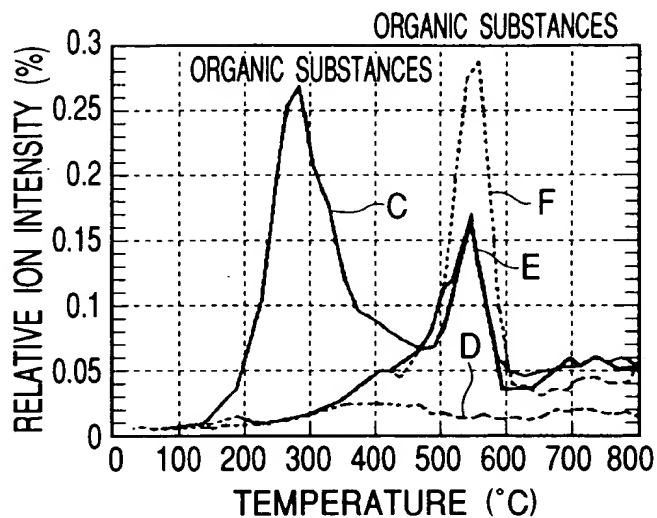
CONDITION	Si <sub>3</sub> N <sub>x</sub>
CMP	—
H <sub>2</sub> pl	Si <sub>3</sub> N <sub>1.08</sub>
NH <sub>3</sub> pl	Si <sub>3</sub> N <sub>4.22</sub>
N <sub>2</sub> pl	Si <sub>3</sub> N <sub>3.81</sub>

FIG. 26(a)



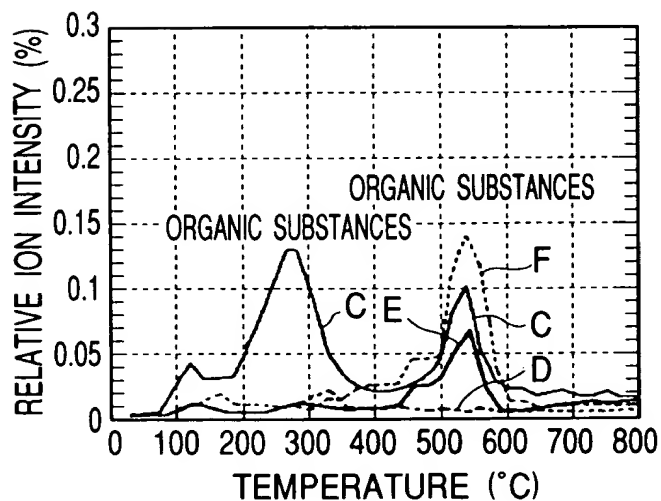
THERMAL DISSOCIATION OF HYDROGEN,  
Ar-H  $m/z=41$

FIG. 26(b)



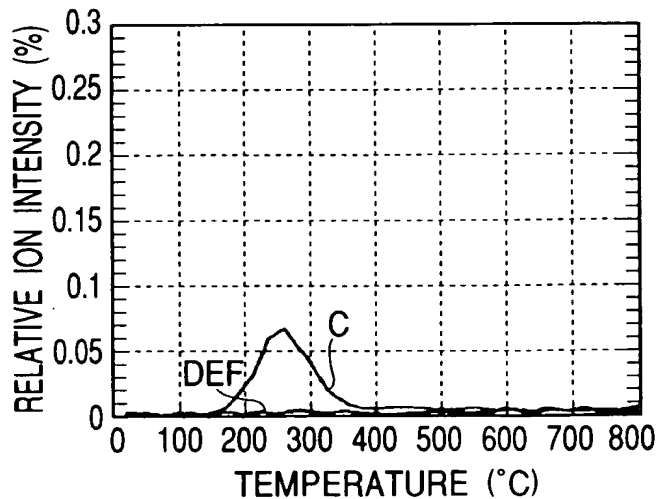
THERMAL DISSOCIATION OF ORGANIC  
SUBSTANCES,  
A(C<sub>n</sub>H<sub>2n-1</sub>) C<sub>2</sub>H<sub>3</sub>  $m/z=27$

FIG. 26(c)



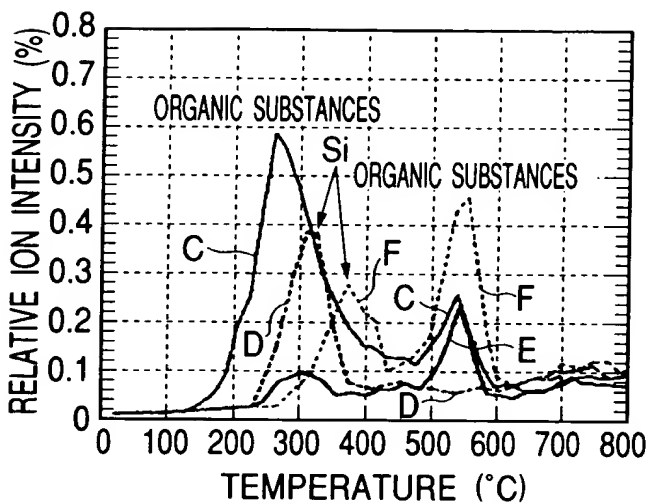
THERMAL DISSOCIATION OF ORGANIC  
SUBSTANCES,  
B(C<sub>n</sub>H<sub>2n+1</sub>) C<sub>4</sub>H<sub>9</sub>  $m/z=57$

FIG. 26(d)



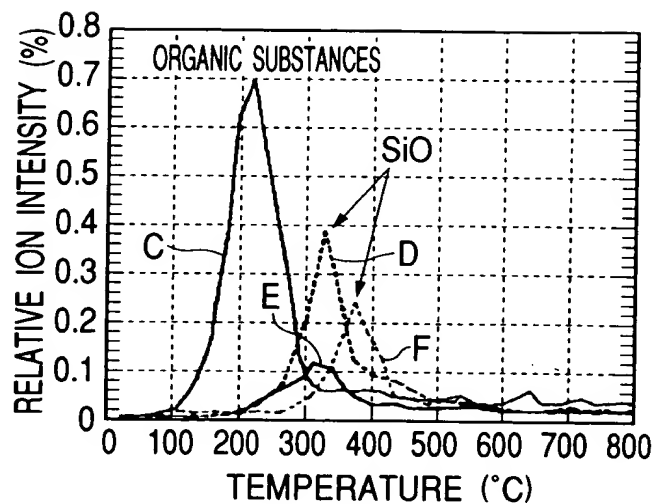
THERMAL DISSOCIATION OF ORGANIC  
SUBSTANCES,  
C(C<sub>n</sub>H<sub>2n+10</sub>) C<sub>3</sub>H<sub>7</sub>O  $m/z=59$

FIG. 27(a)



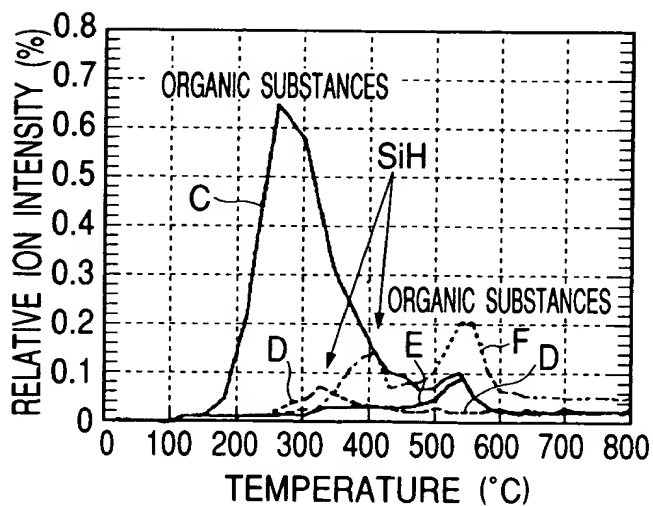
THERMAL DISSOCIATION OF Si  
AND ORGANIC SUBSTANCES  
Si, C<sub>2</sub>H<sub>4</sub>  $m/z=28$

FIG. 27(b)



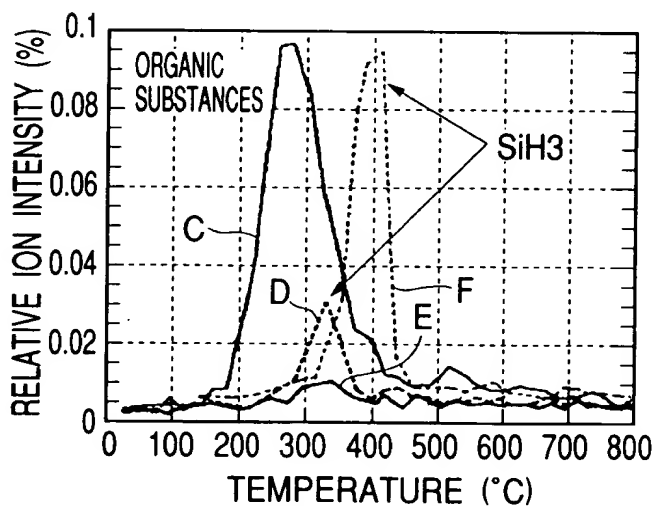
THERMAL DISSOCIATION OF SiO  
AND ORGANIC SUBSTANCES  
SiO, C<sub>3</sub>H<sub>6</sub>  $m/z=44$

FIG. 27(c)



THERMAL DISSOCIATION OF SiH  
AND ORGANIC SUBSTANCES  
SiH, C<sub>2</sub>H<sub>5</sub>  $m/z=29$

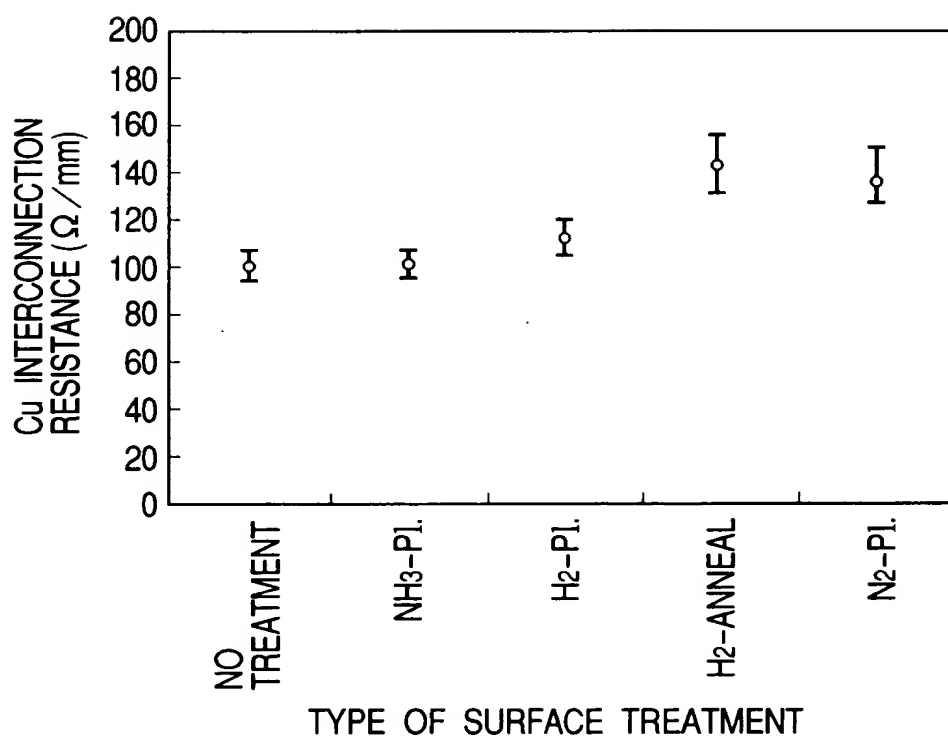
FIG. 27(d)



THERMAL DISSOCIATION OF SiH<sub>3</sub>  
AND ORGANIC SUBSTANCES  
SiH<sub>3</sub>  $m/z=31$



FIG. 28



**FIG. 29**

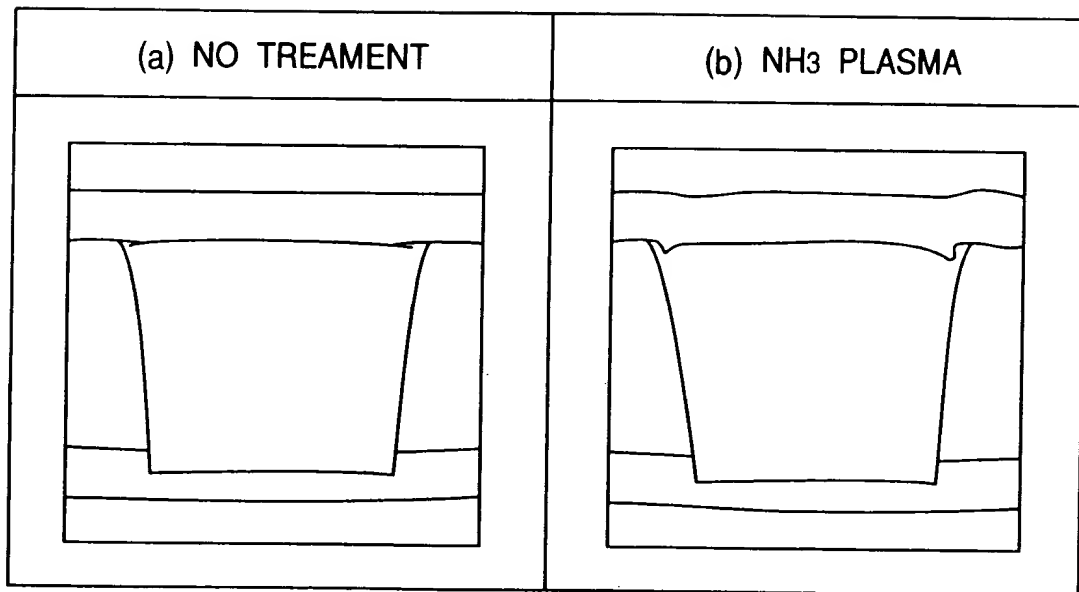


FIG. 30

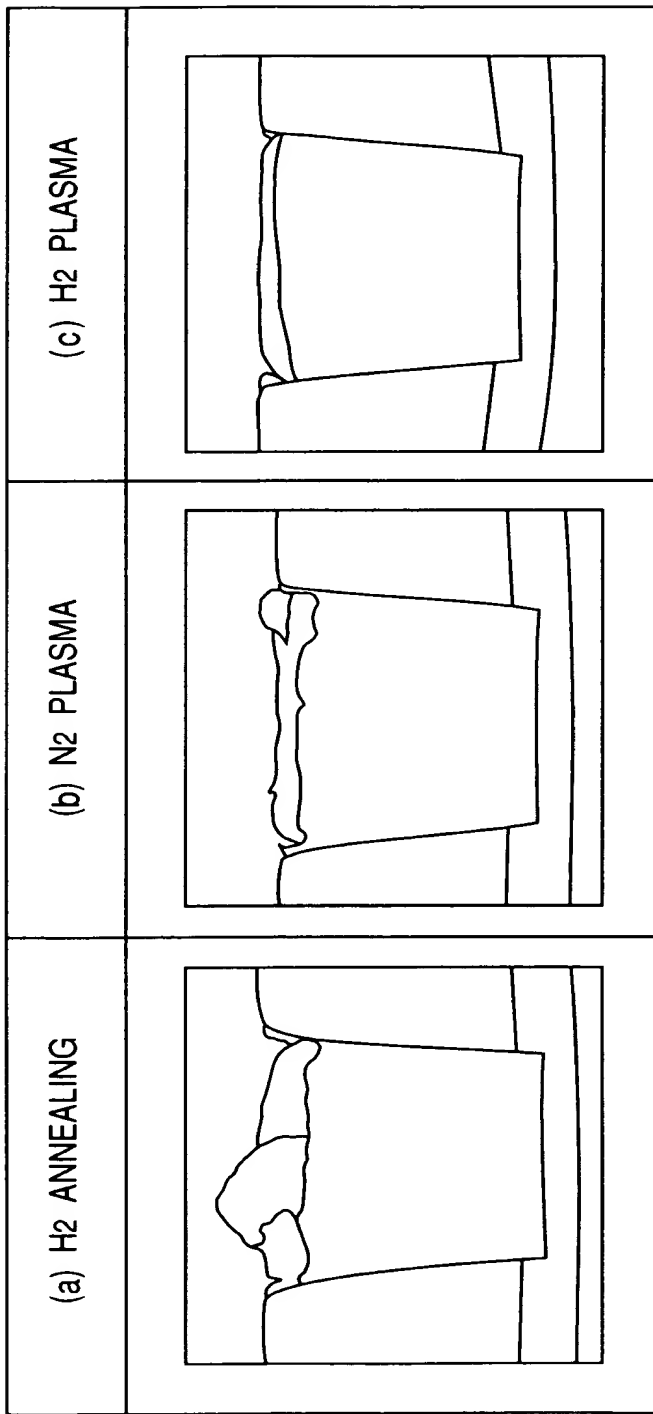


FIG. 31(b)

FIG. 31(a)

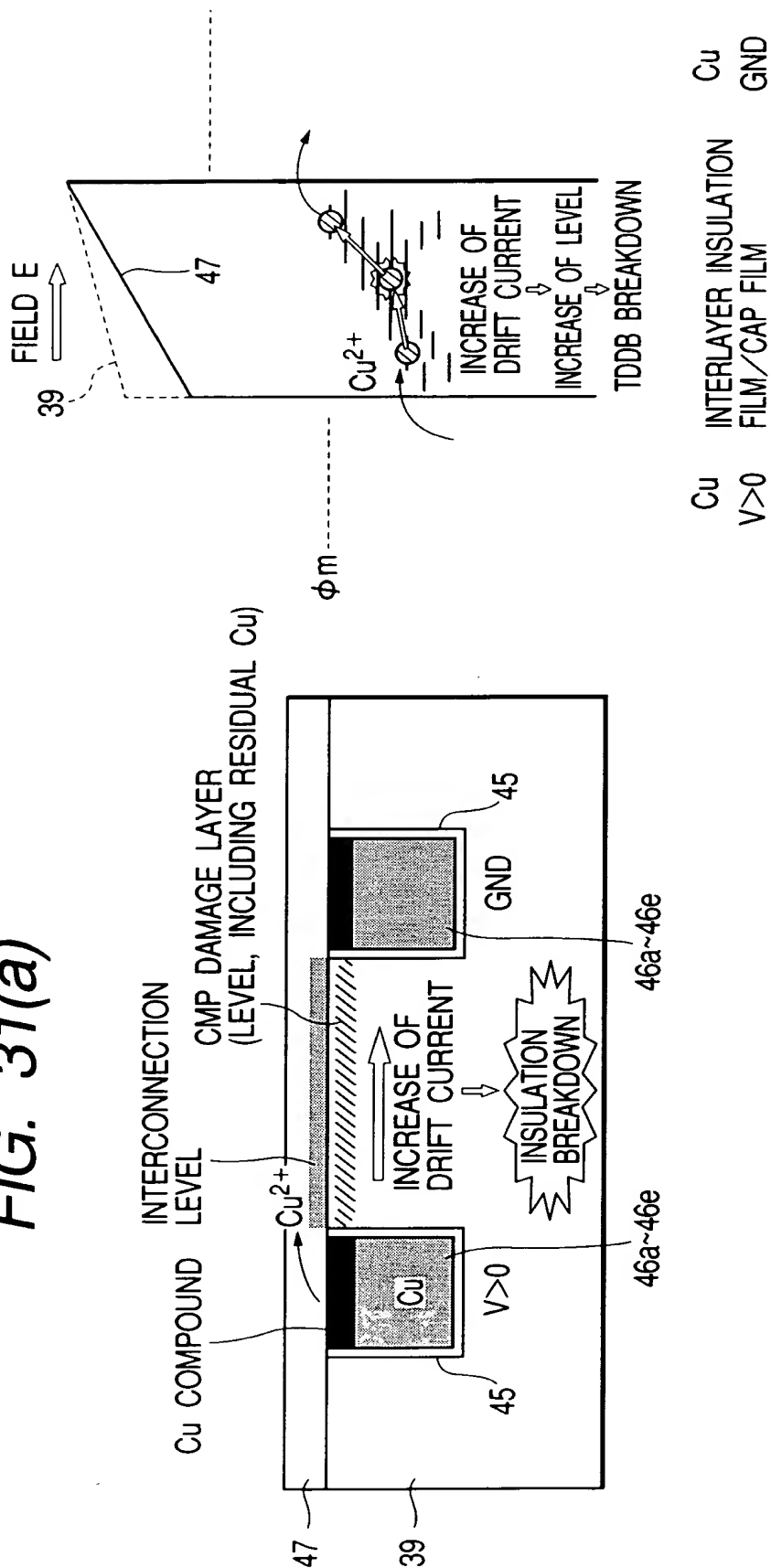


FIG. 32(a)

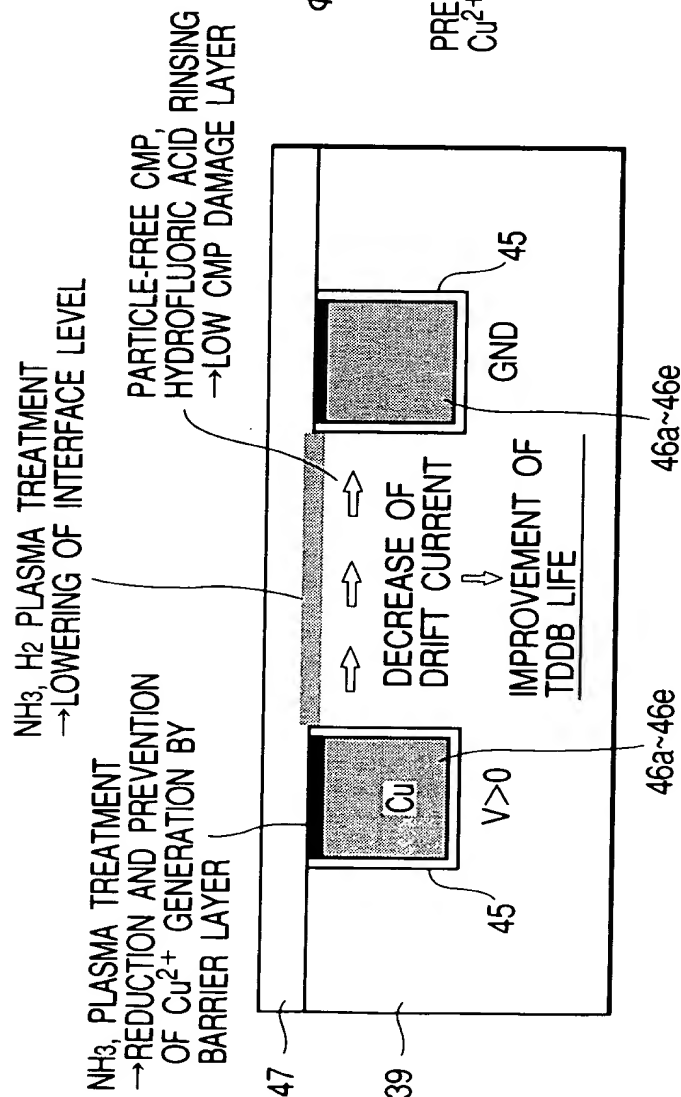
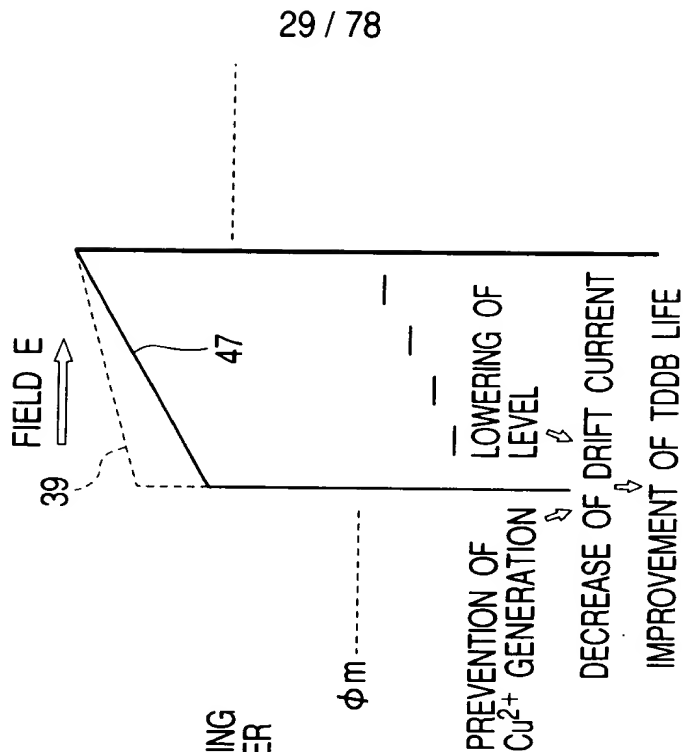


FIG. 32(b)



Cu INTERLAYER INSULATION  
V > 0 FILM/CAP FILM  
Cu GND

FIG. 33

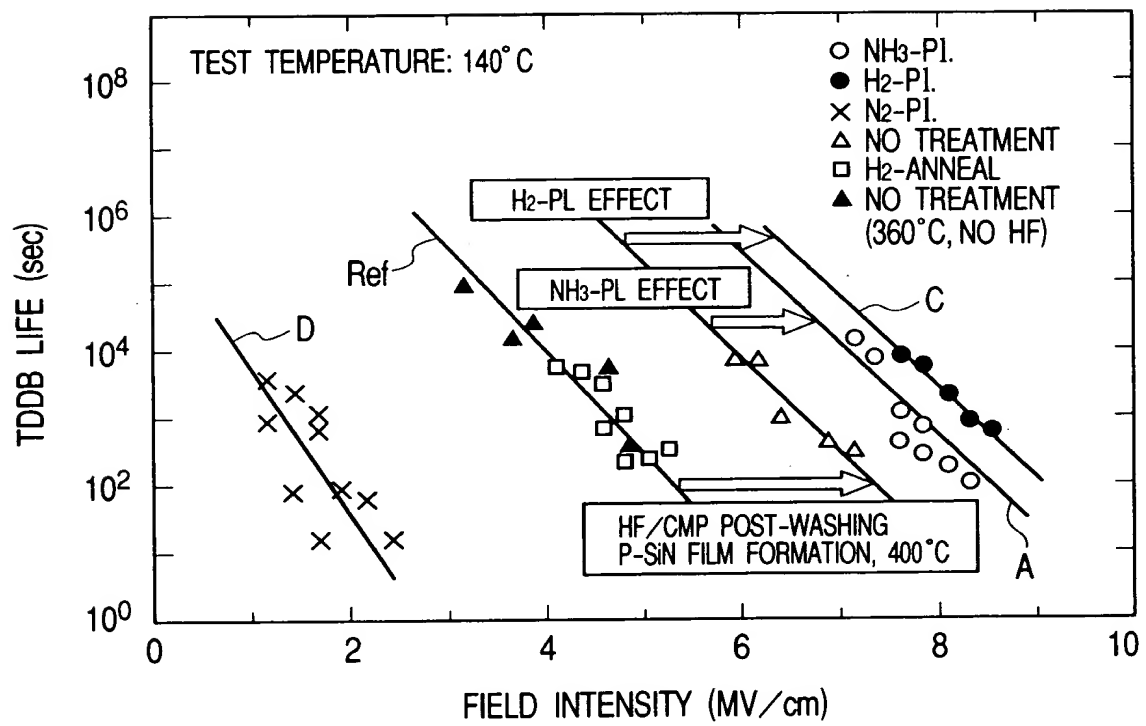


FIG. 34

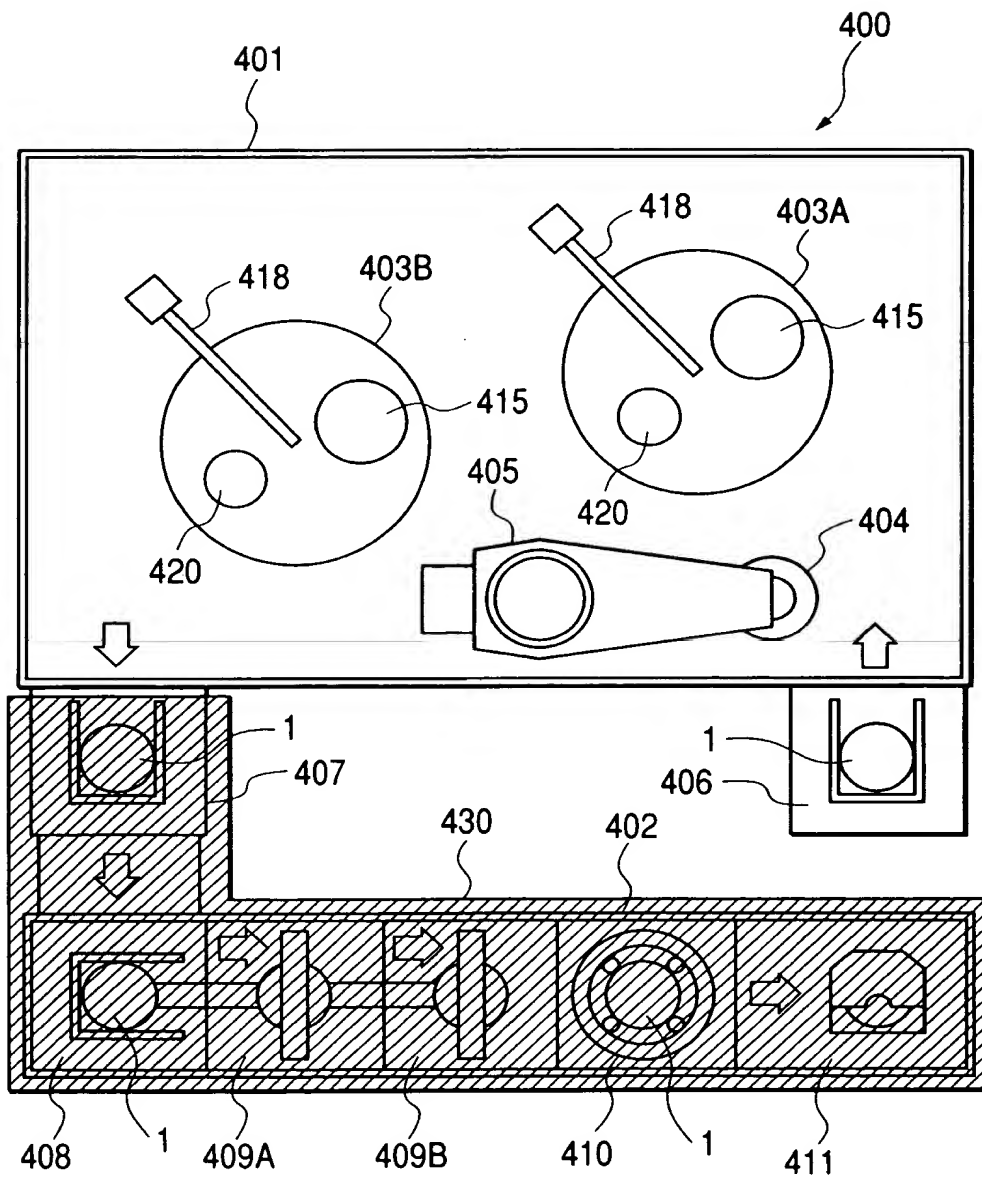


FIG. 35

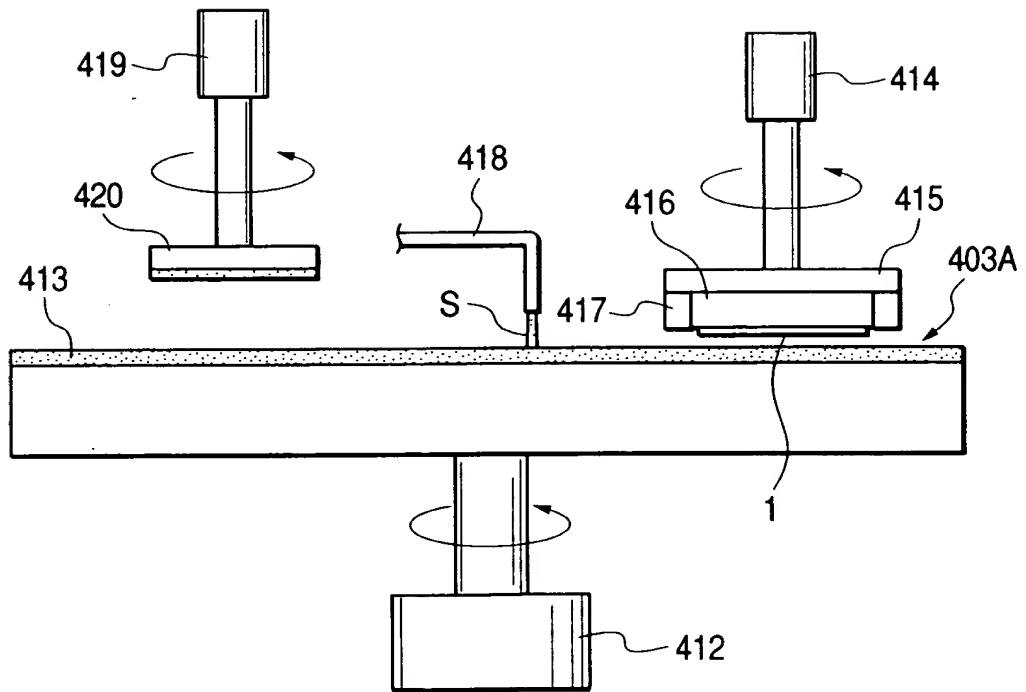


FIG. 35



FIG. 36

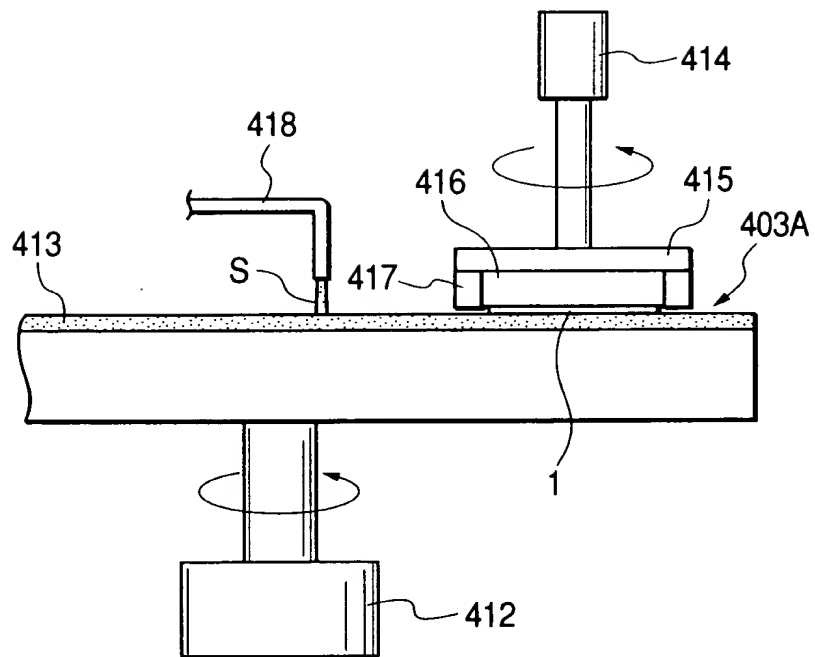
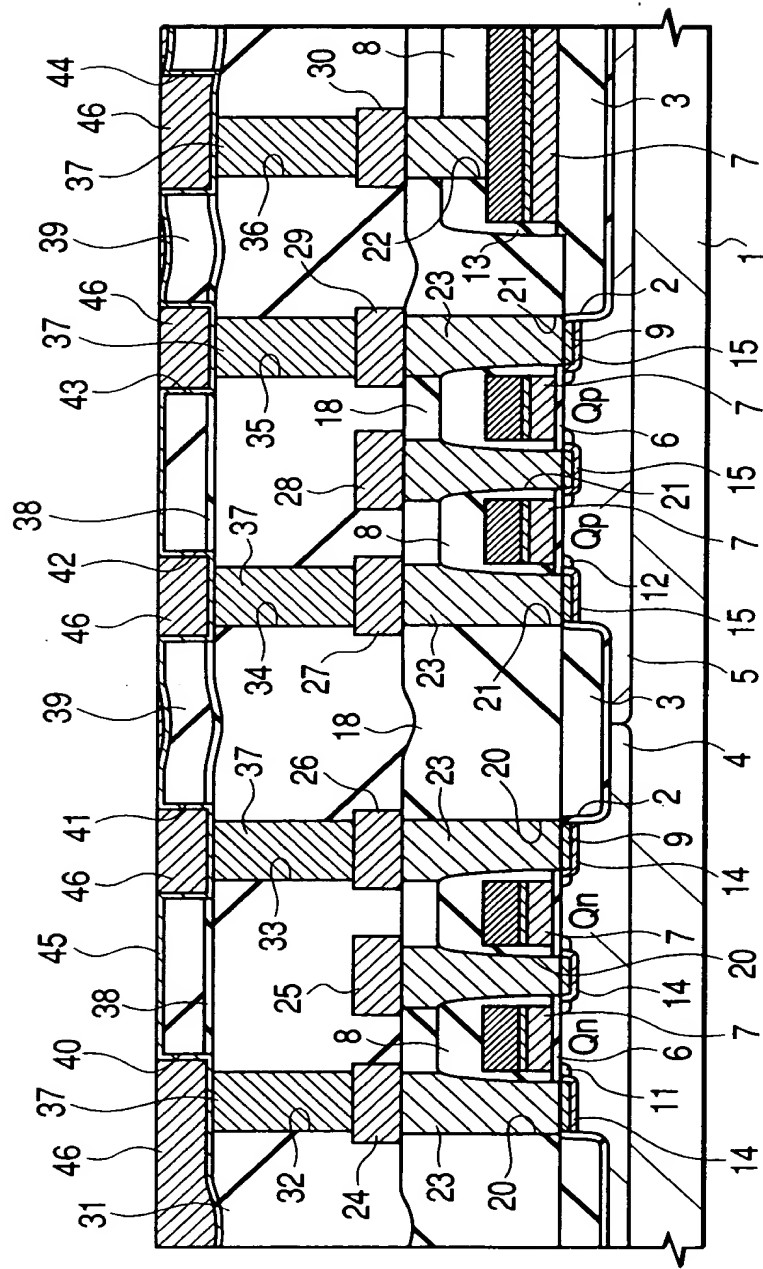
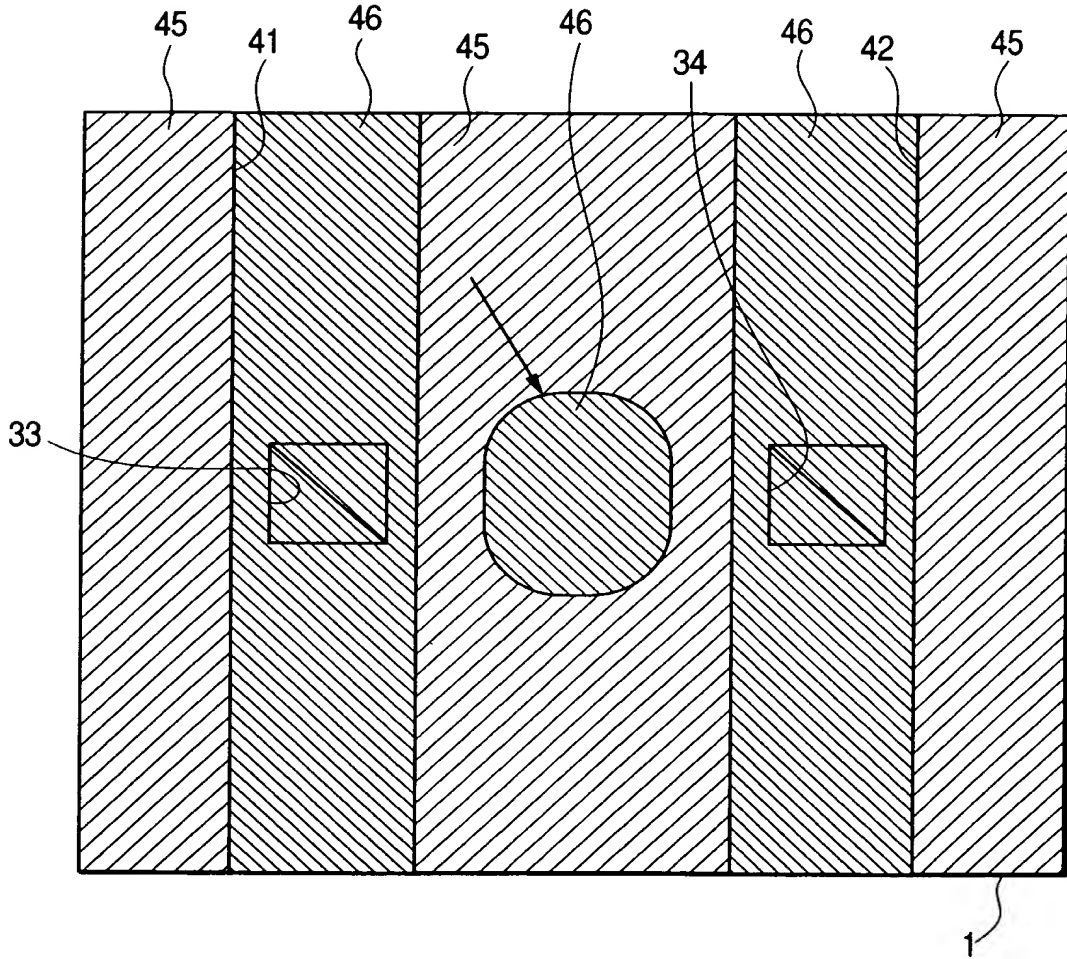


FIG. 37



**FIG. 38(a)**



**FIG. 38(b)**

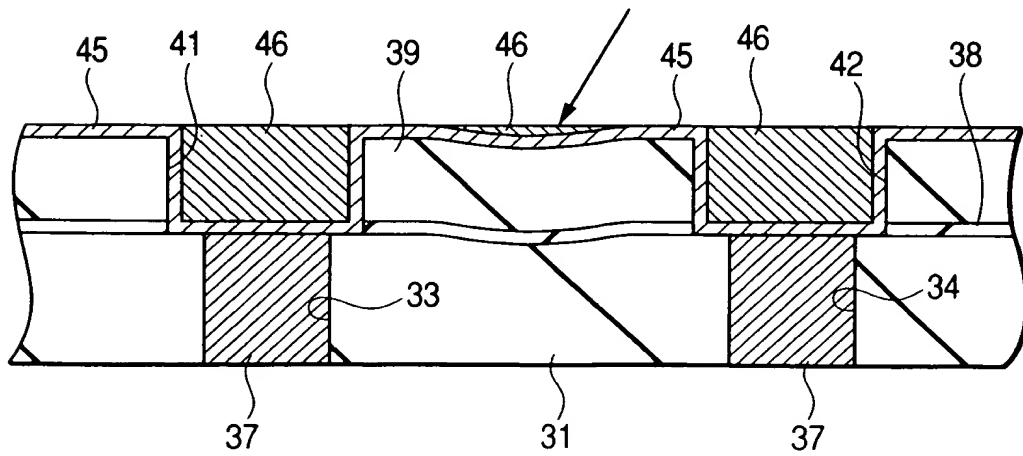


FIG. 39

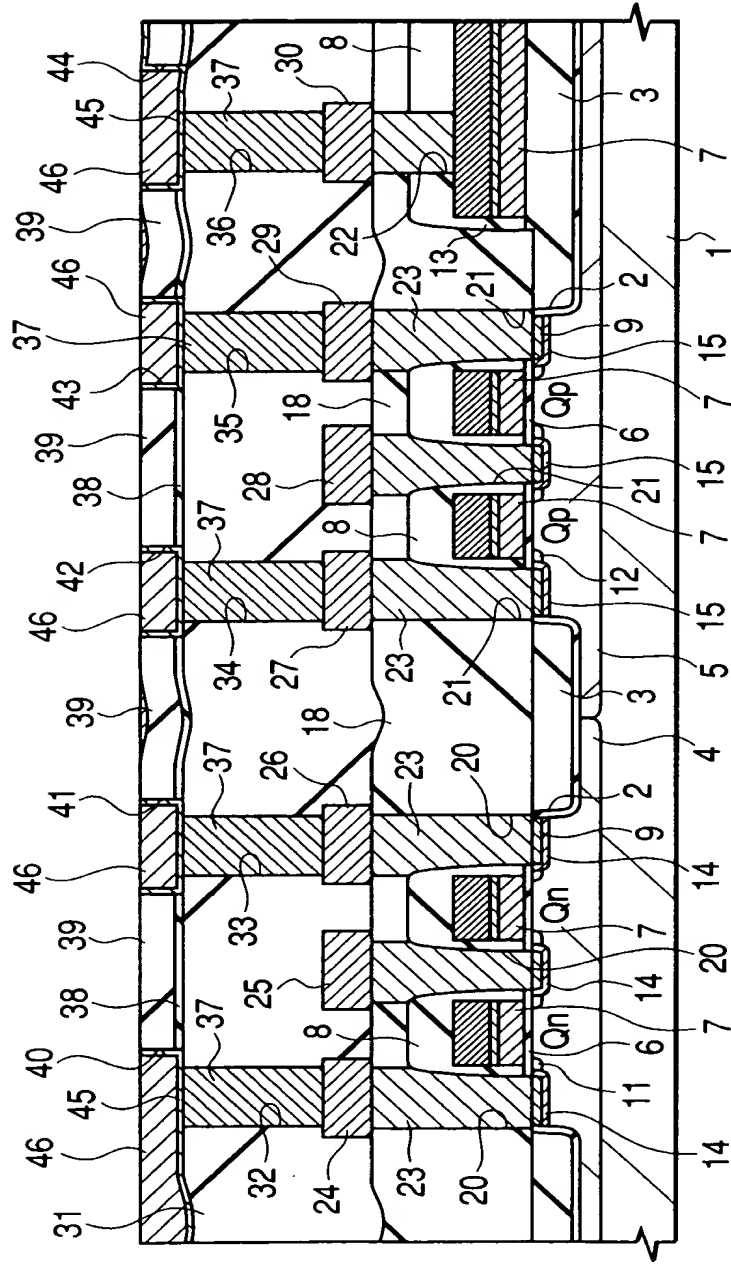


FIG. 40(a)

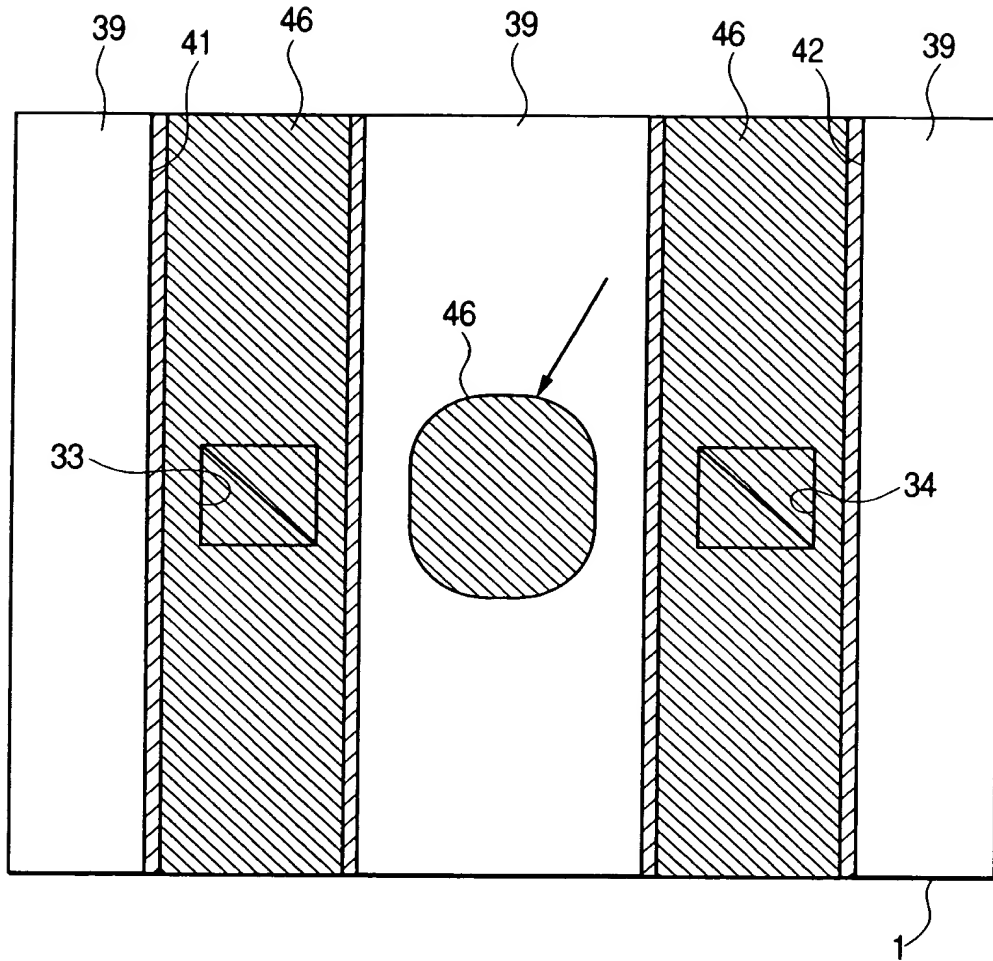


FIG. 40(b)

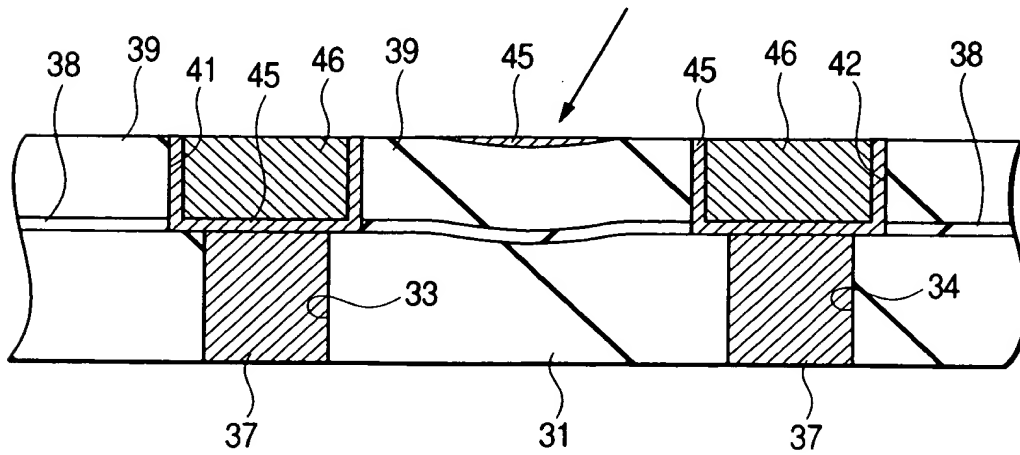


FIG. 41

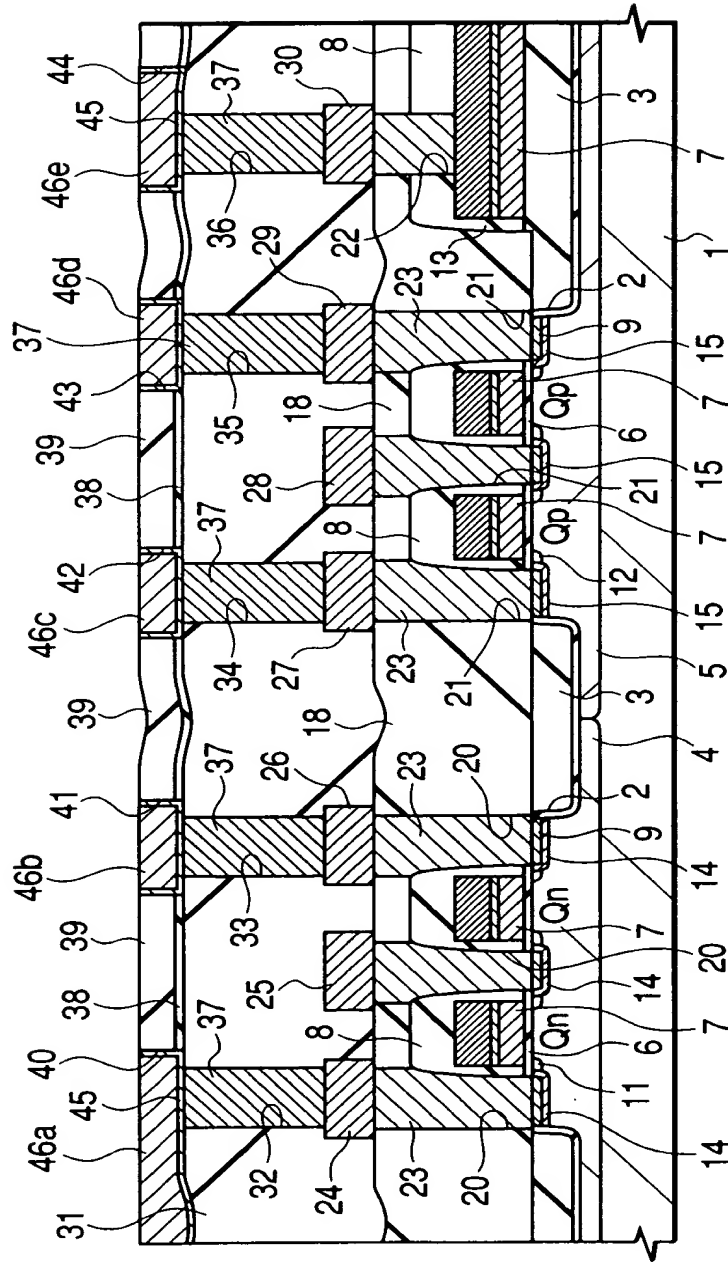


FIG. 42(a)

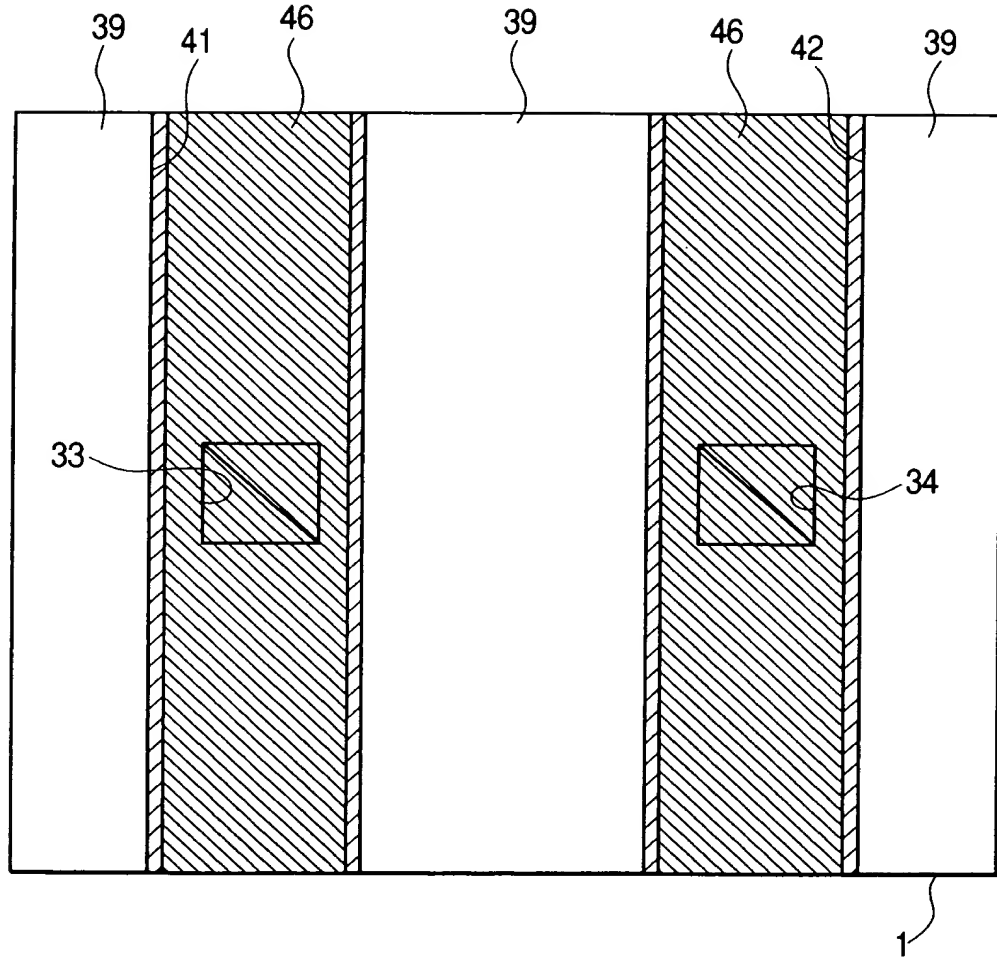
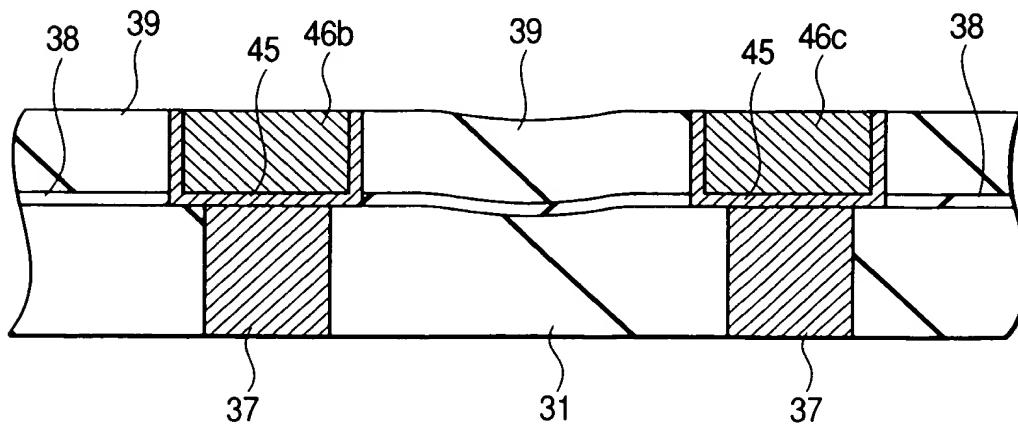


FIG. 42(b)



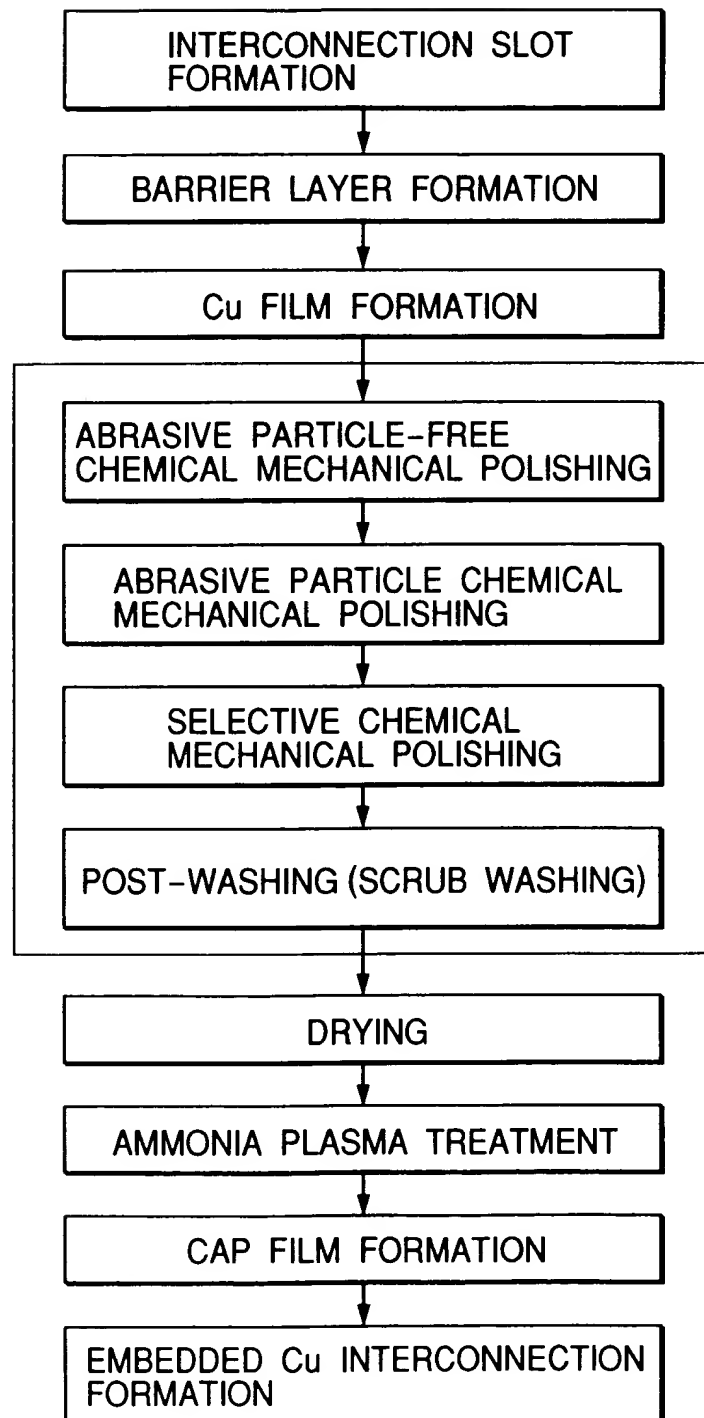
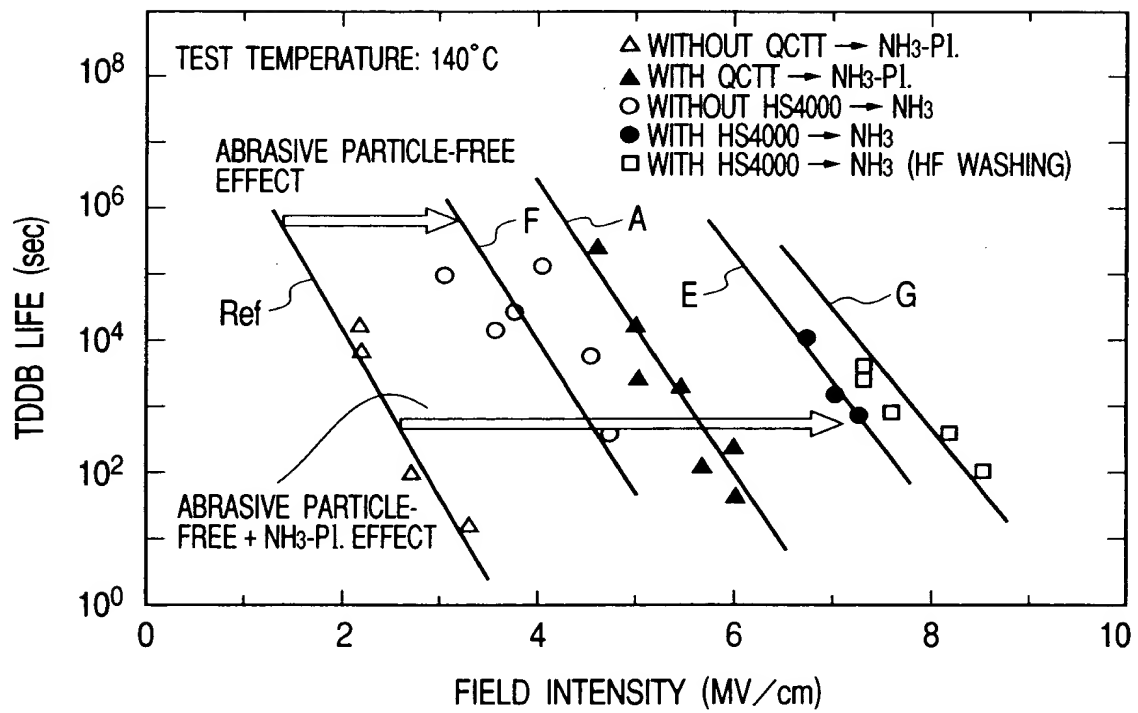
*FIG. 43*



FIG. 44



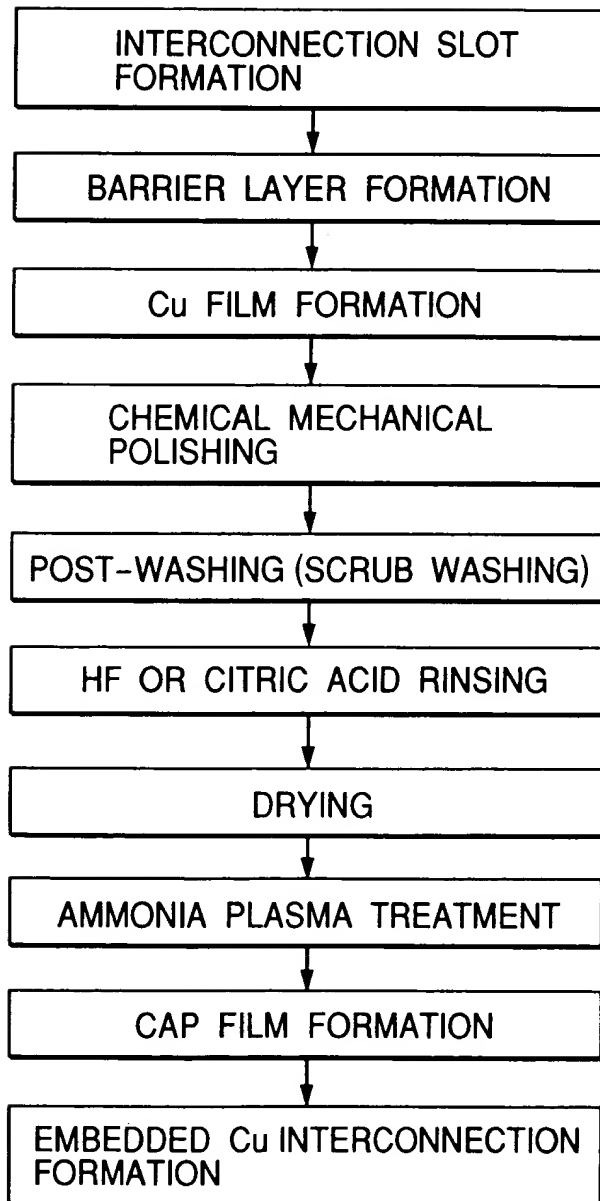
*FIG. 45*

FIG. 46

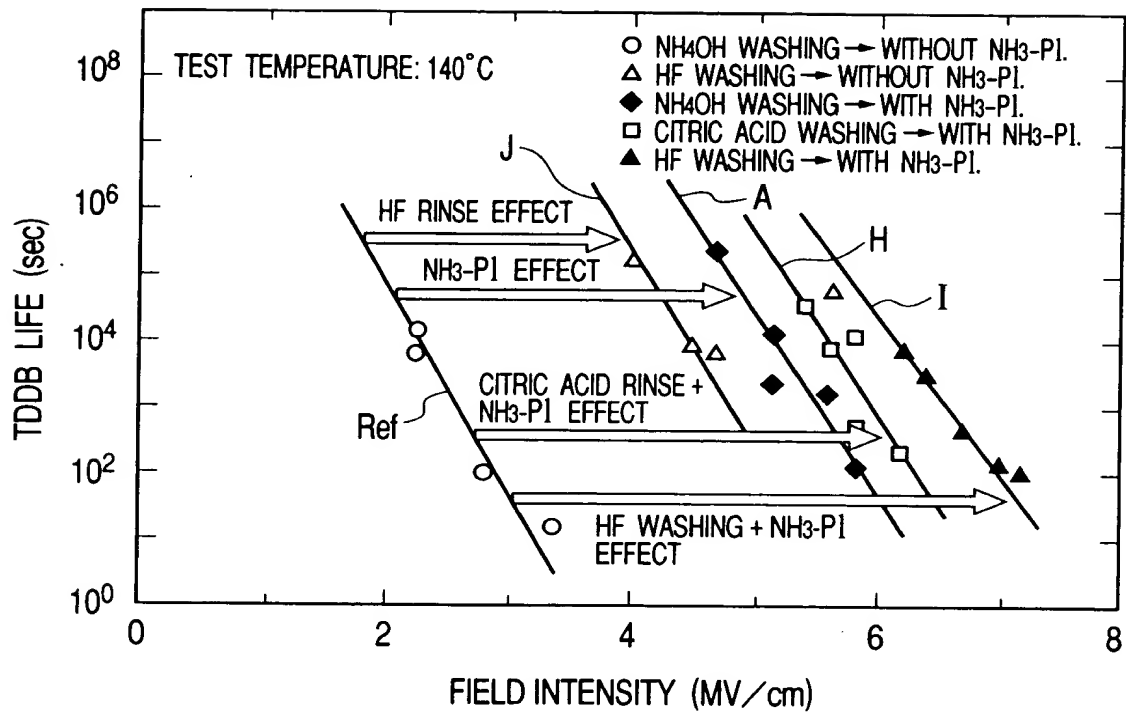
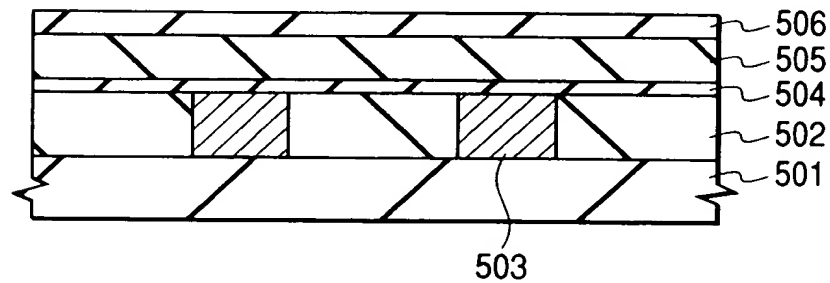
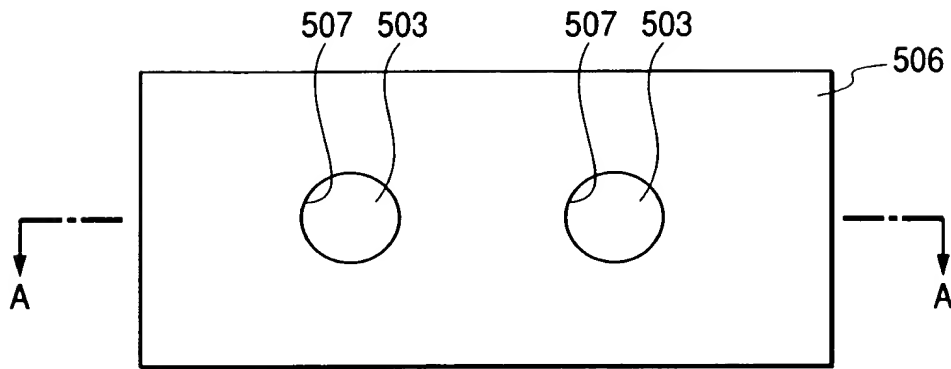


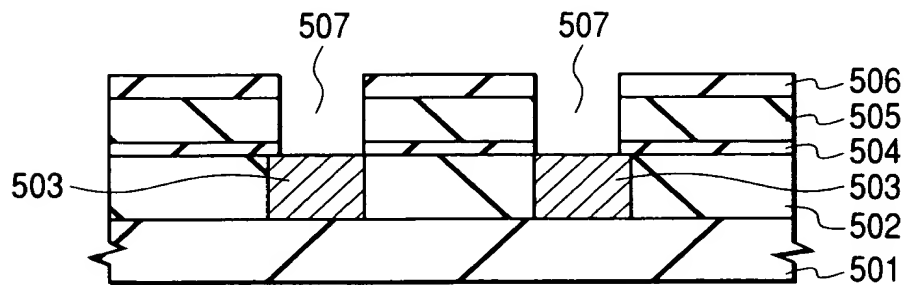
FIG. 47



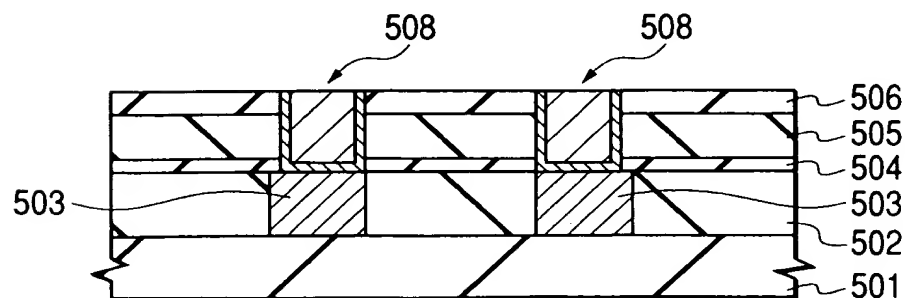
**FIG. 48(a)**



**FIG. 48(b)**



**FIG. 49**



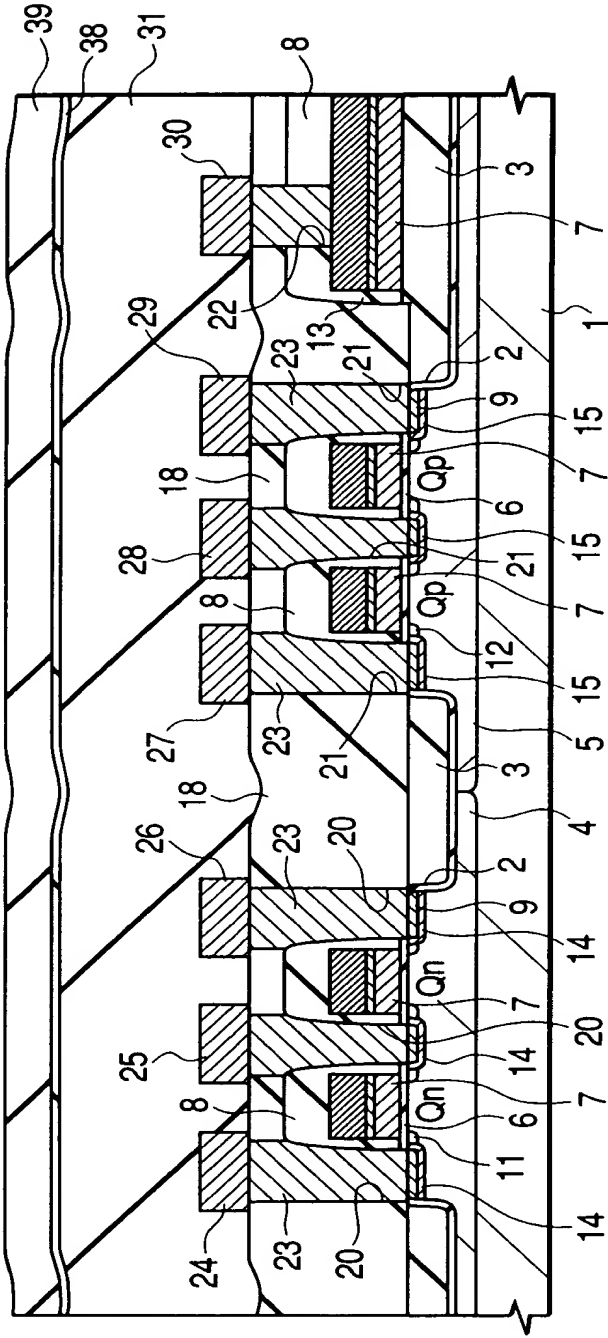


FIG. 50

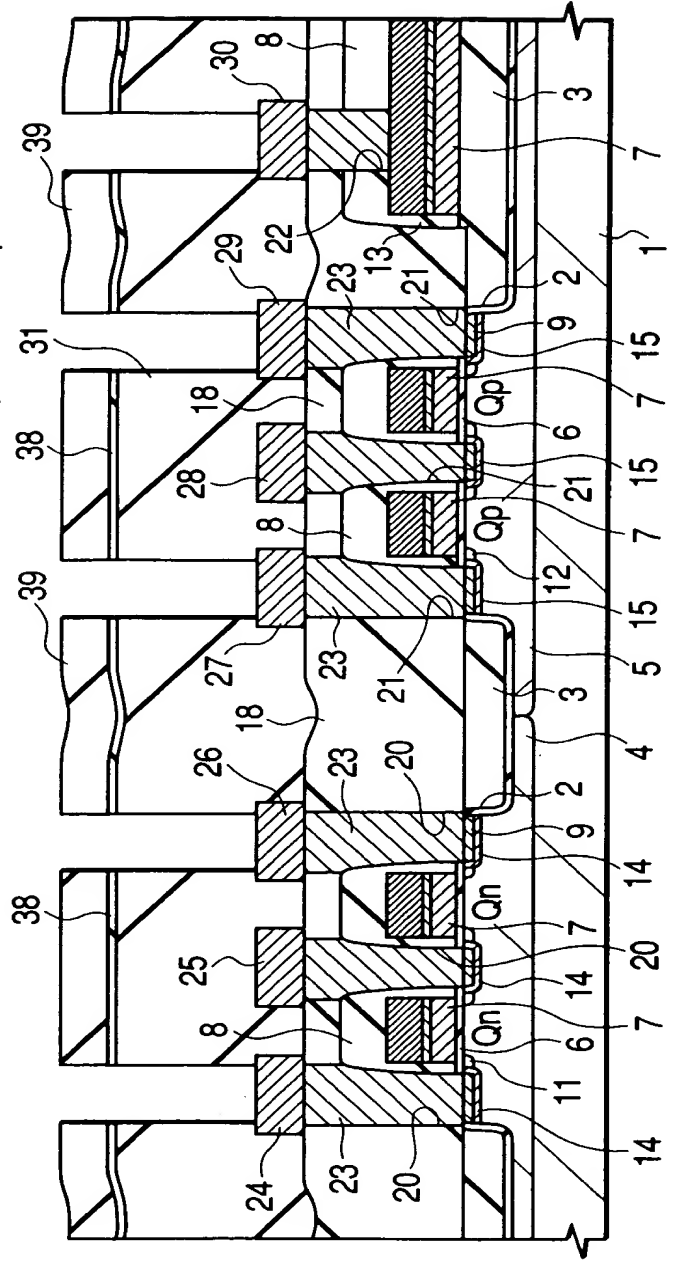


FIG. 51

FIG. 52(a)

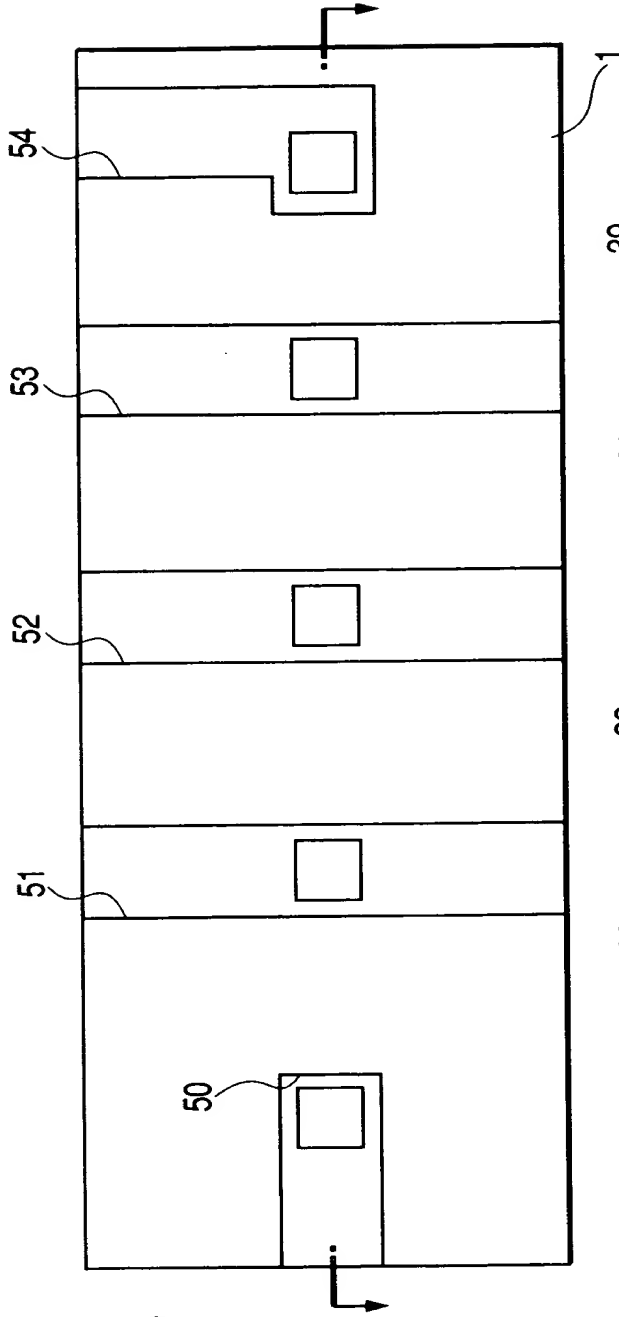
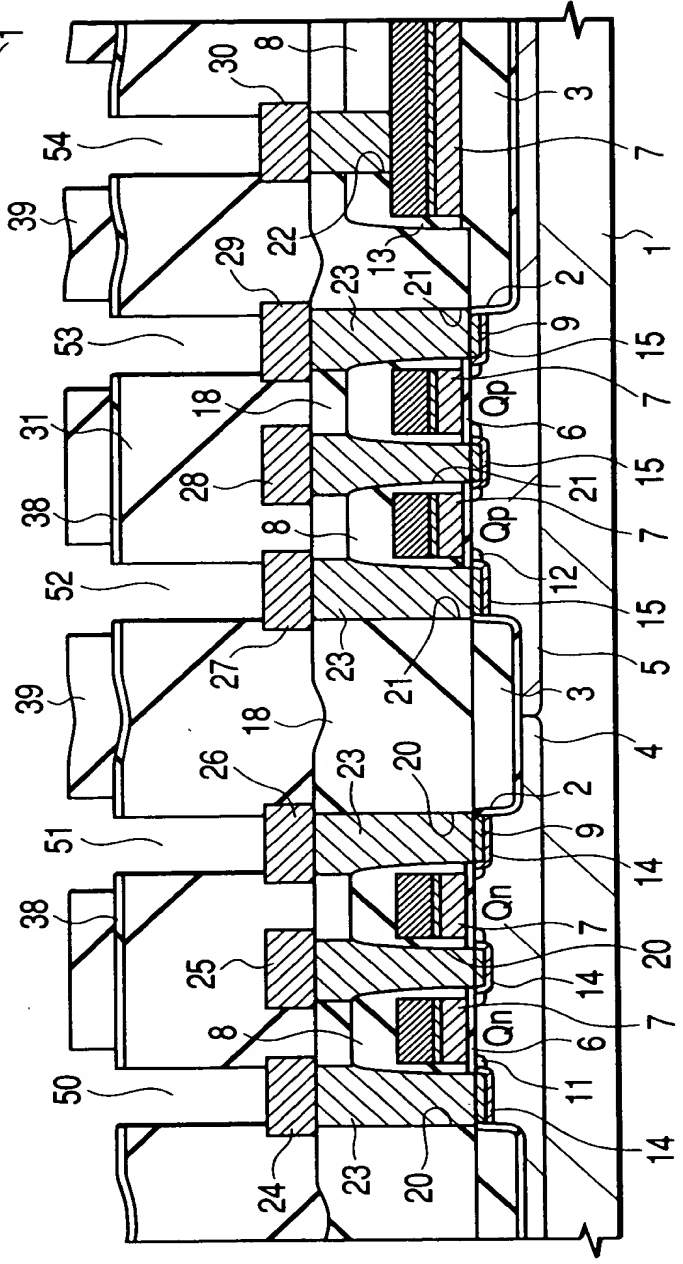


FIG. 52(b)



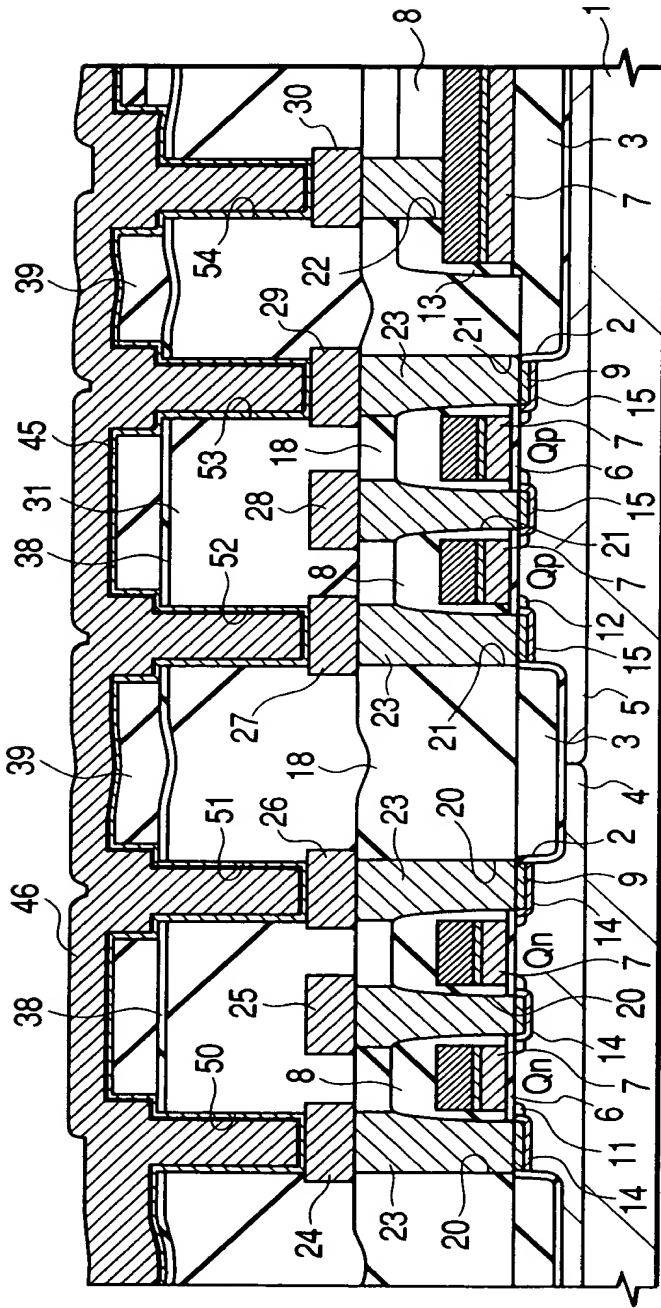


FIG. 53

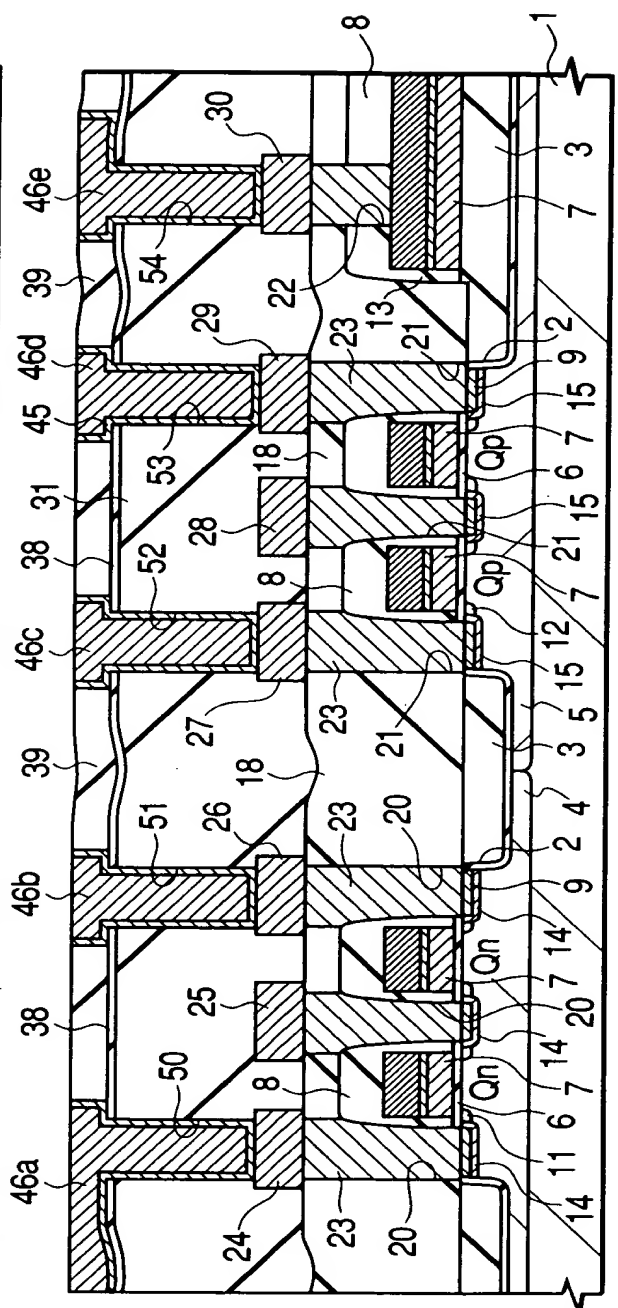


FIG. 54

FIG. 55

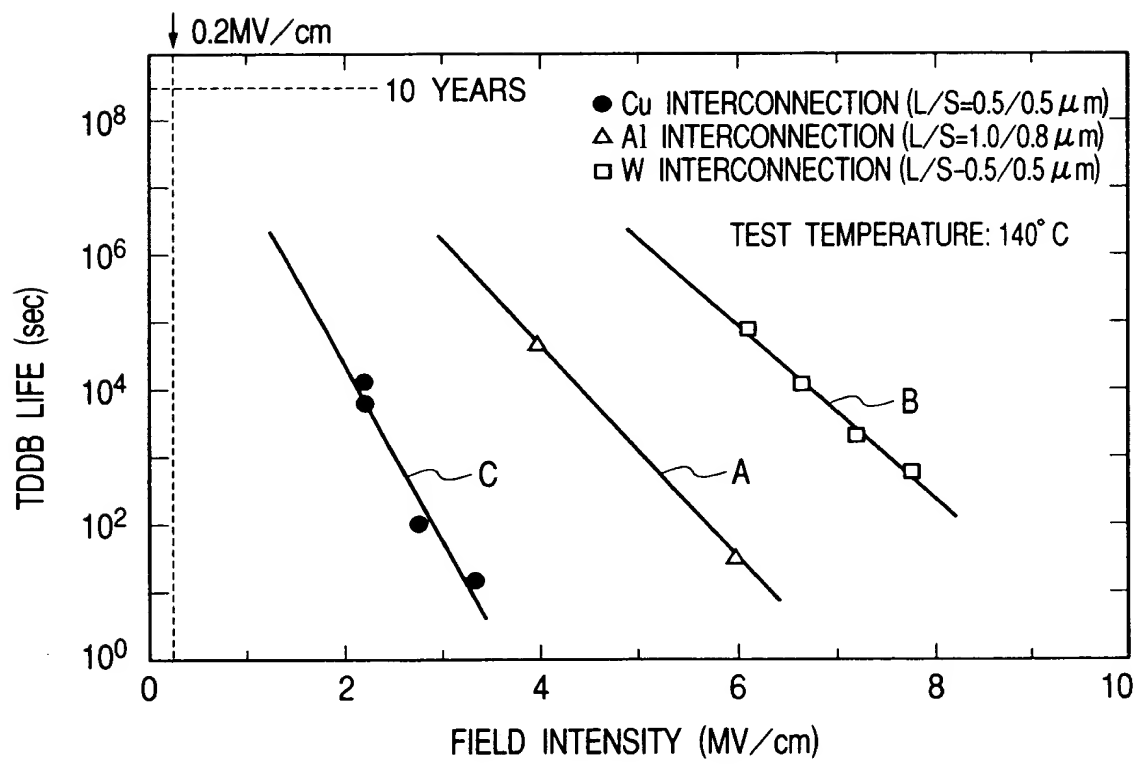




FIG. 56

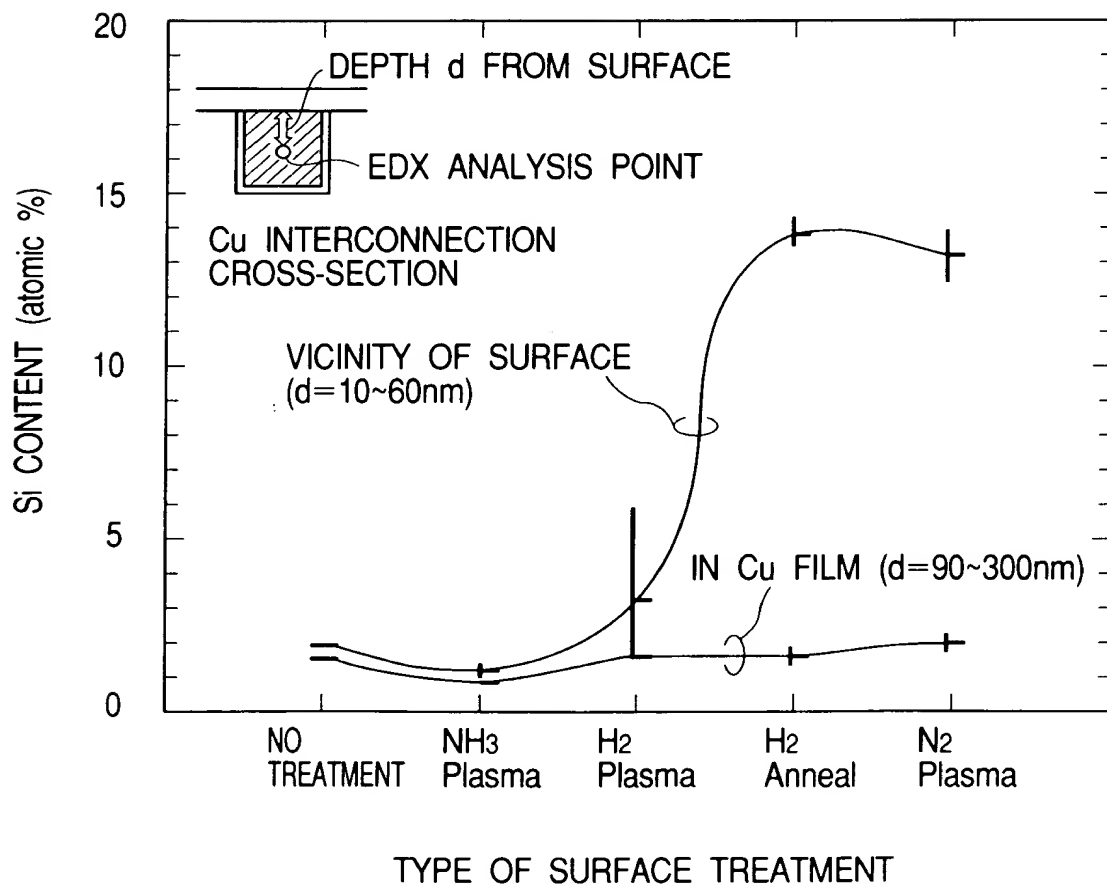
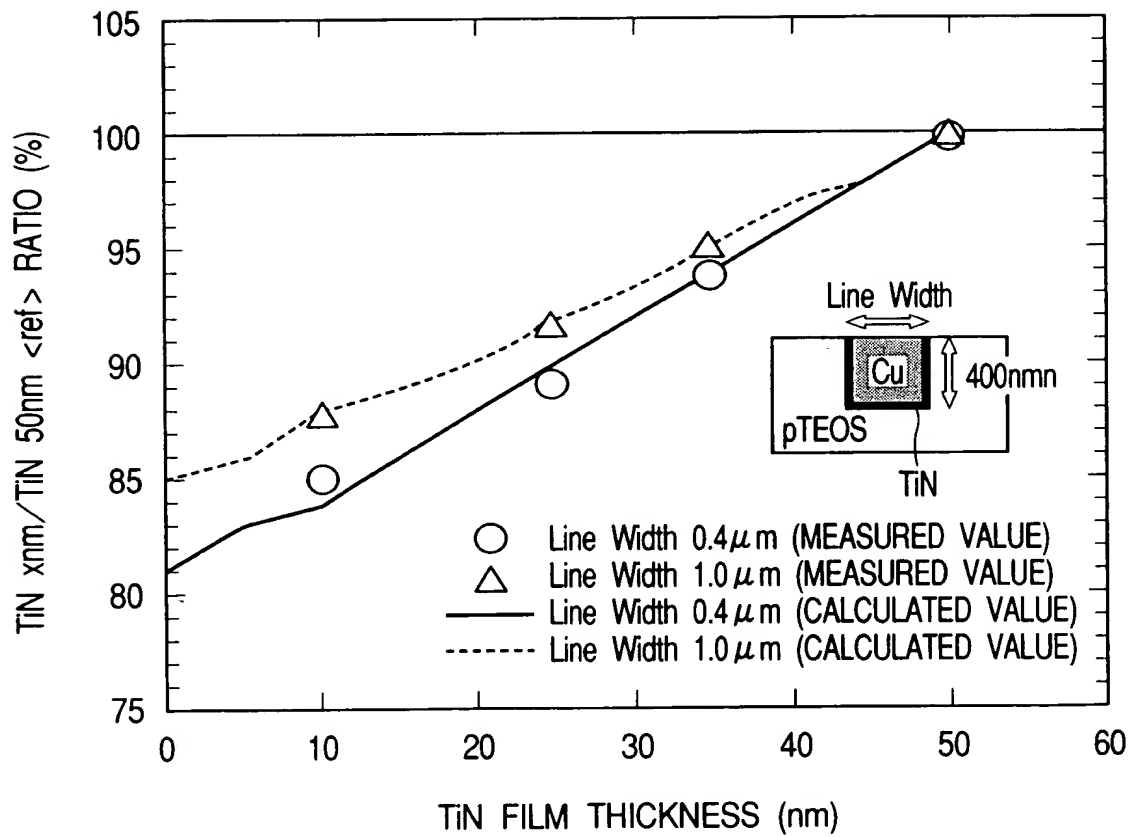


FIG. 57



\* TiN FILM THICKNESS = FILM THICKNESS AT BASE OF SLOT

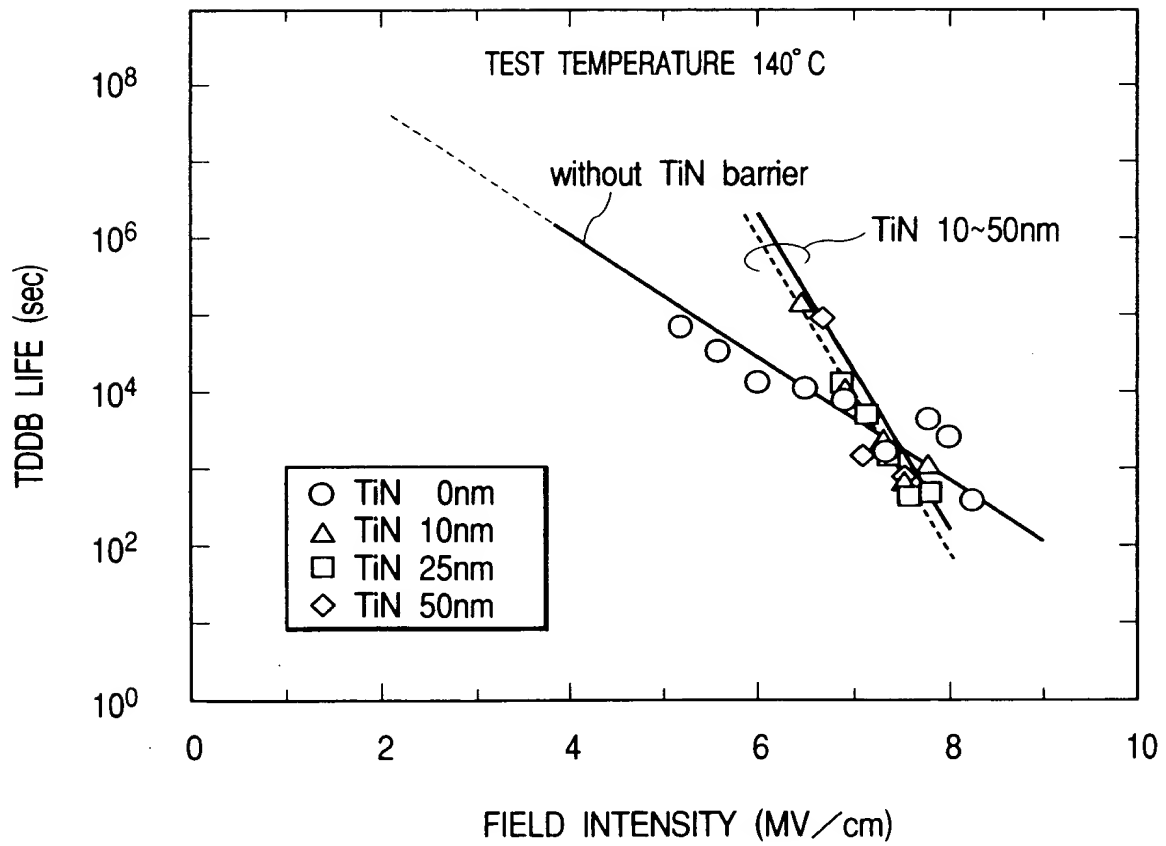
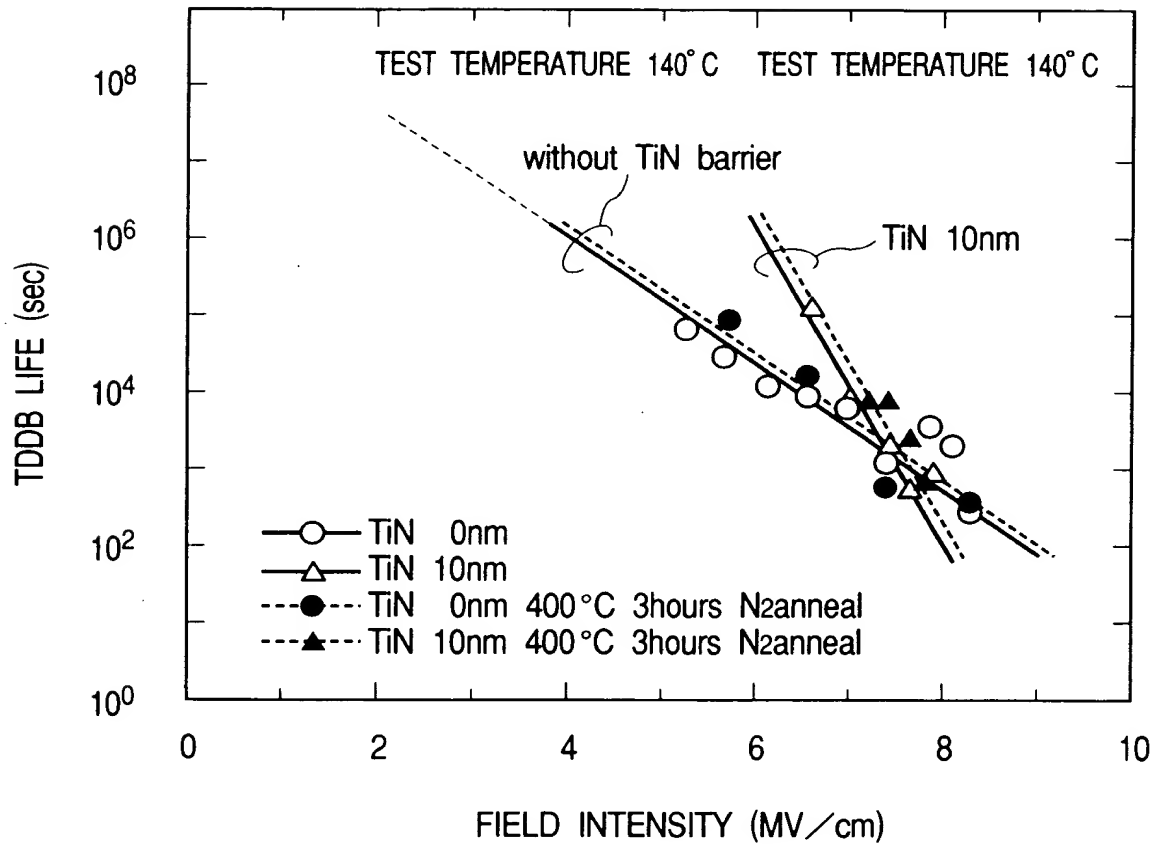
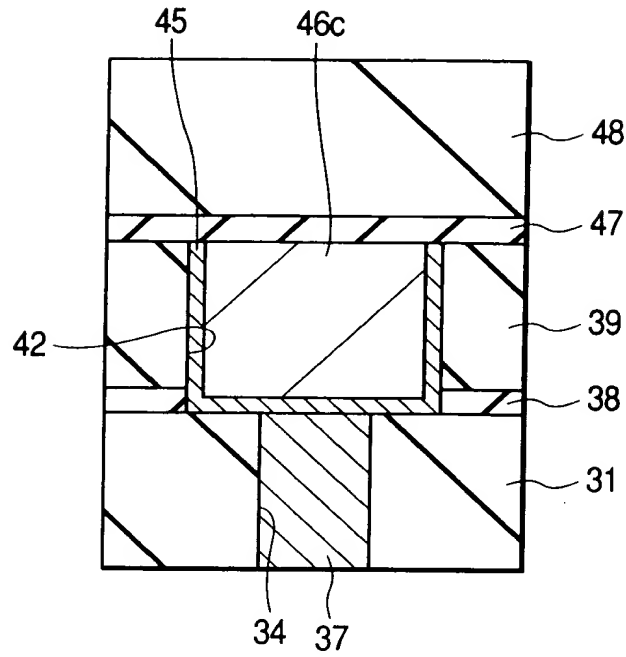
*FIG. 58*

FIG. 59



**FIG. 60(a)**



**FIG. 60(b)**

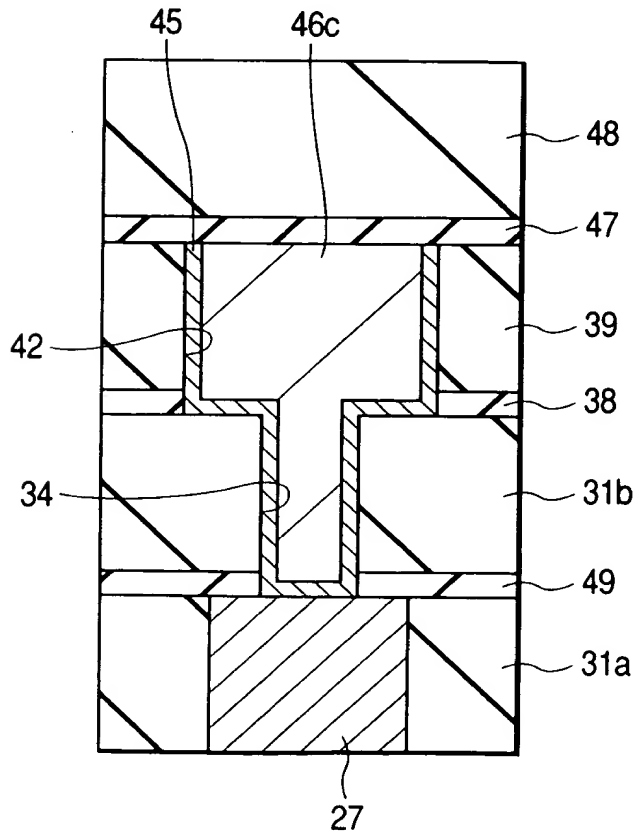


FIG. 61(a)

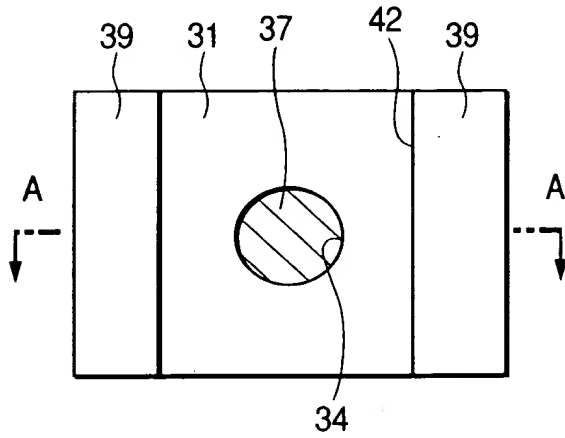


FIG. 61(b)

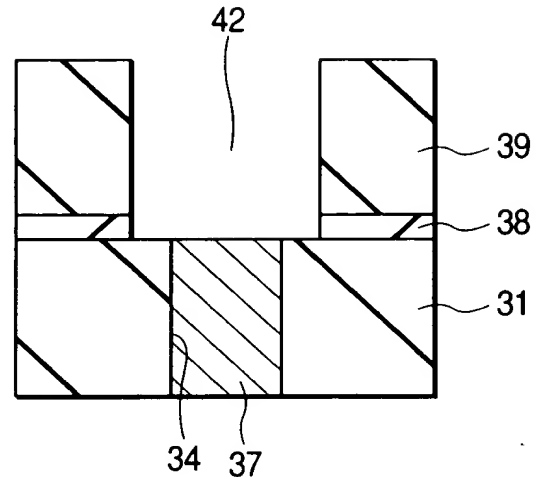


FIG. 62(a)

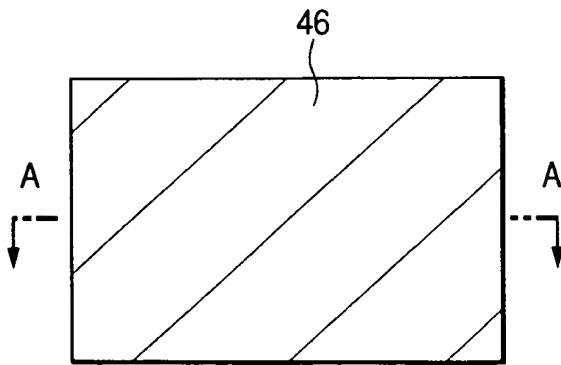


FIG. 62(b)

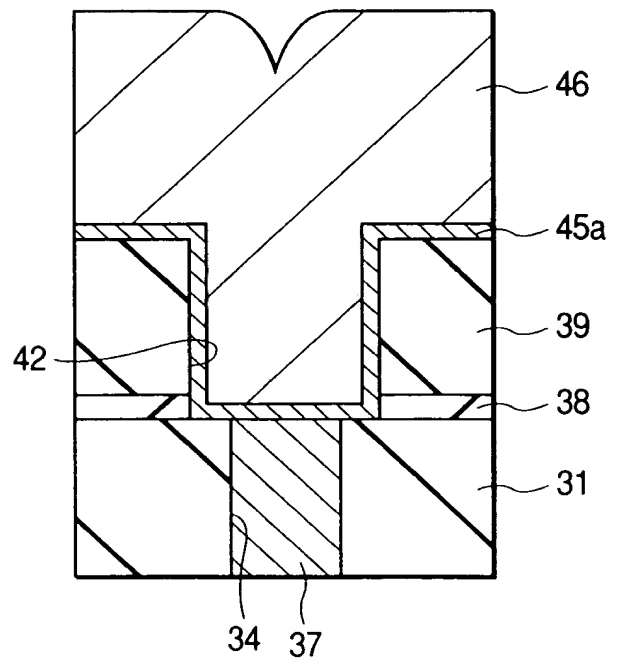


FIG. 63(a)

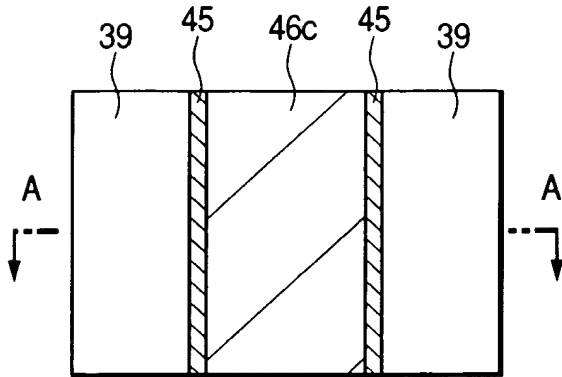


FIG. 63(b)

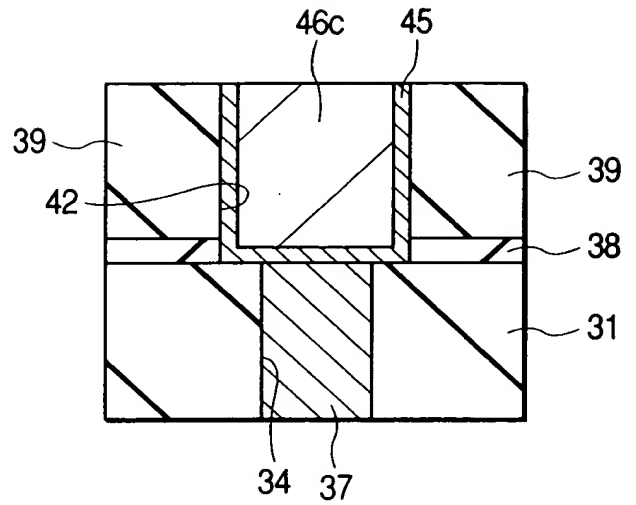


FIG. 64(a)

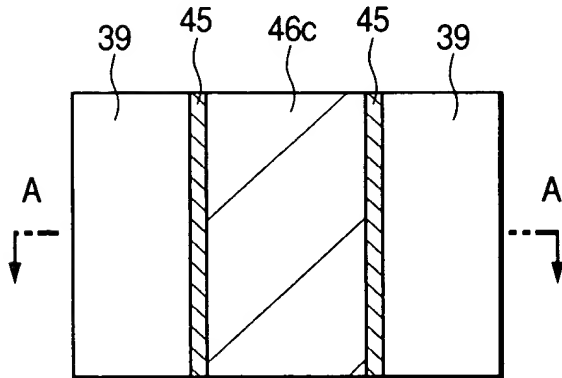
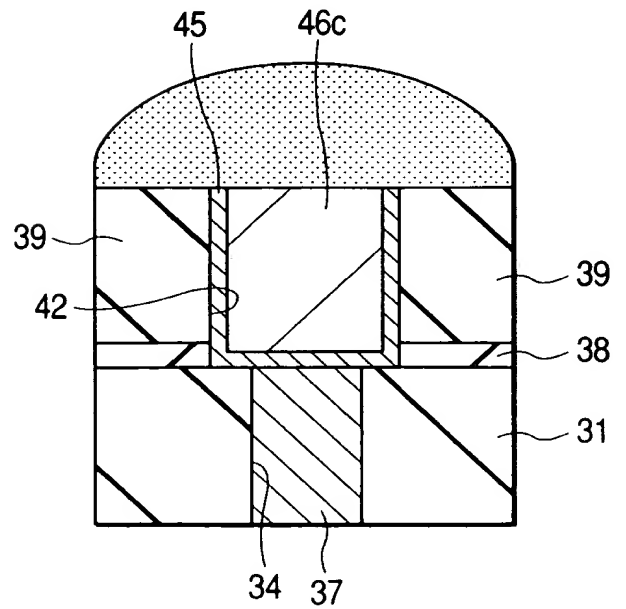
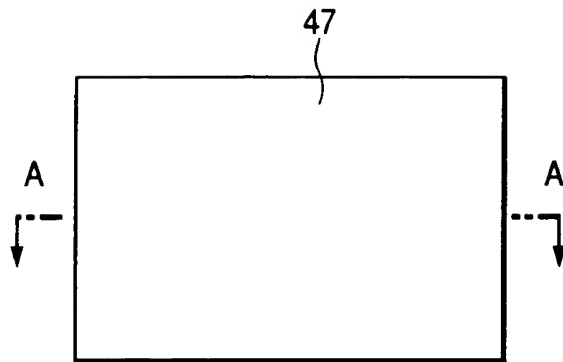


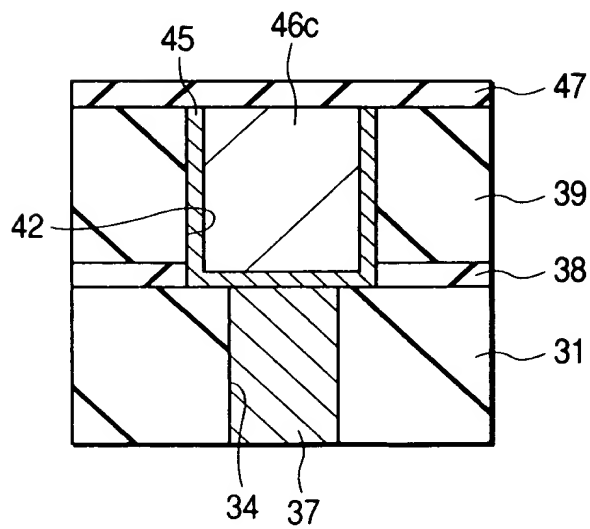
FIG. 64(b)



*FIG. 65(a)*

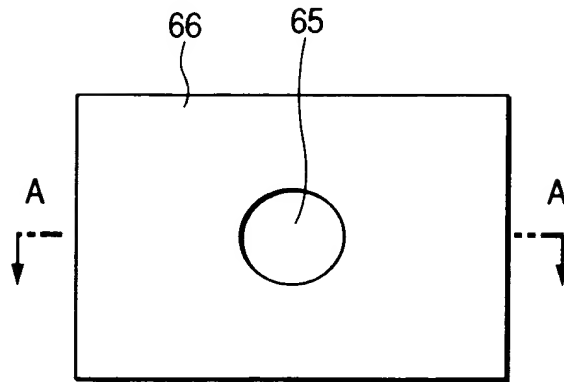


*FIG. 65(b)*





*FIG. 66(a)*



*FIG. 66(b)*

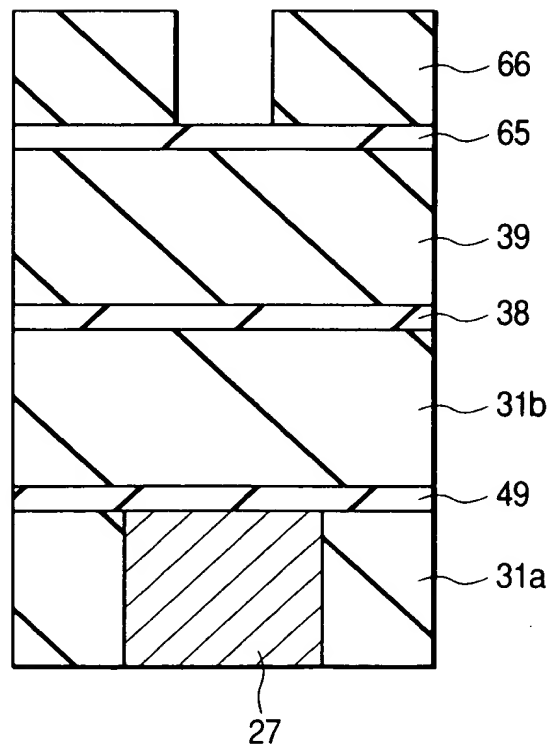


FIG. 67(a)

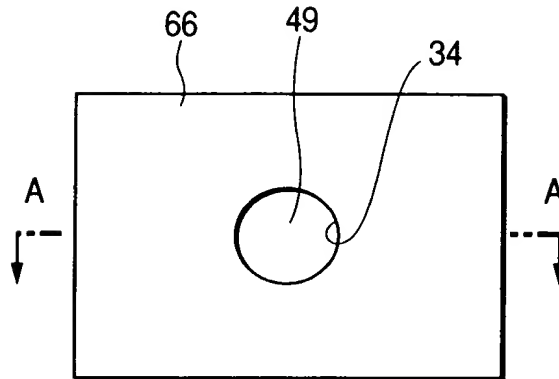
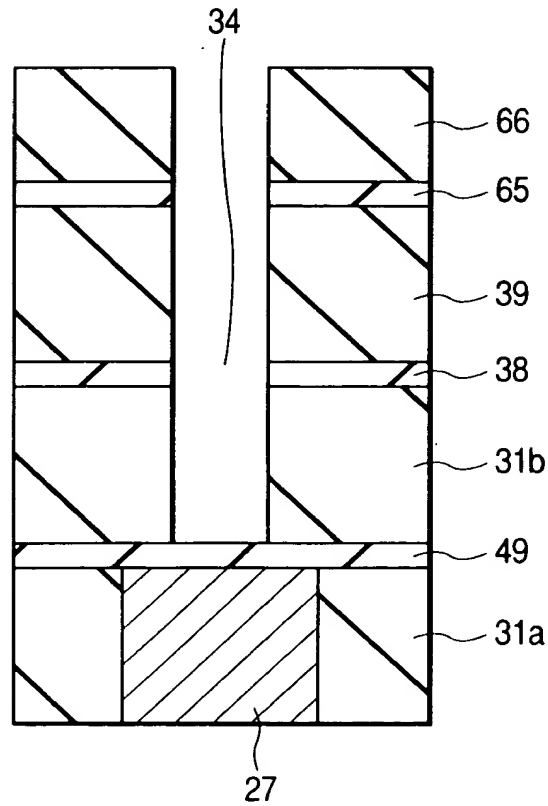
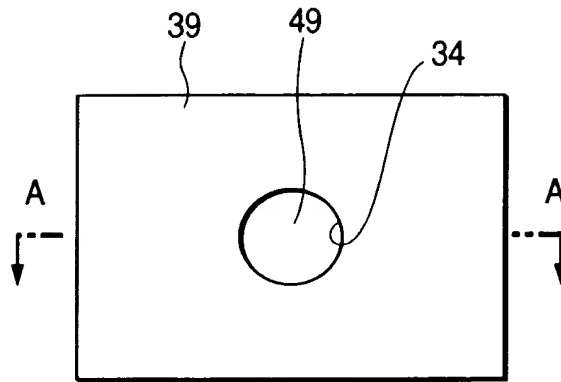


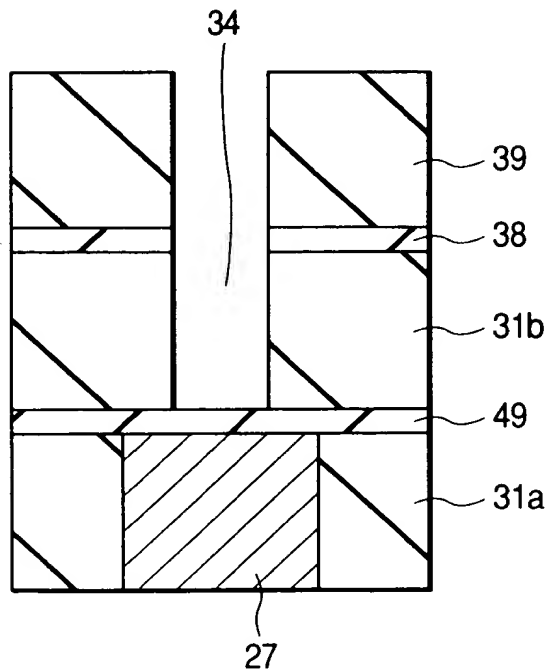
FIG. 67(b)



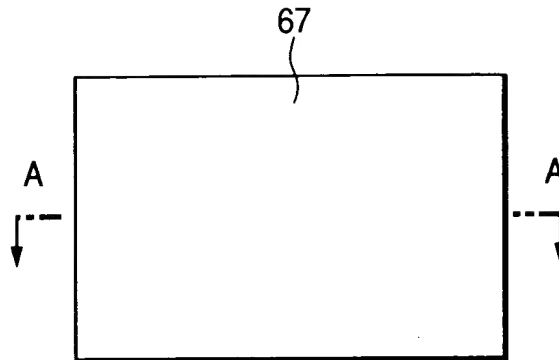
*FIG. 68(a)*



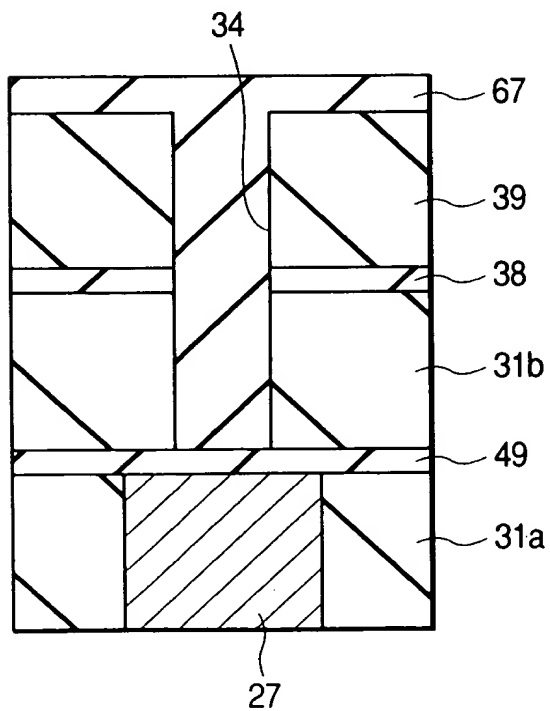
*FIG. 68(b)*



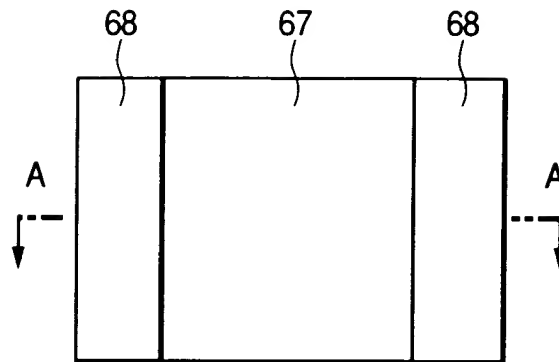
*FIG. 69(a)*



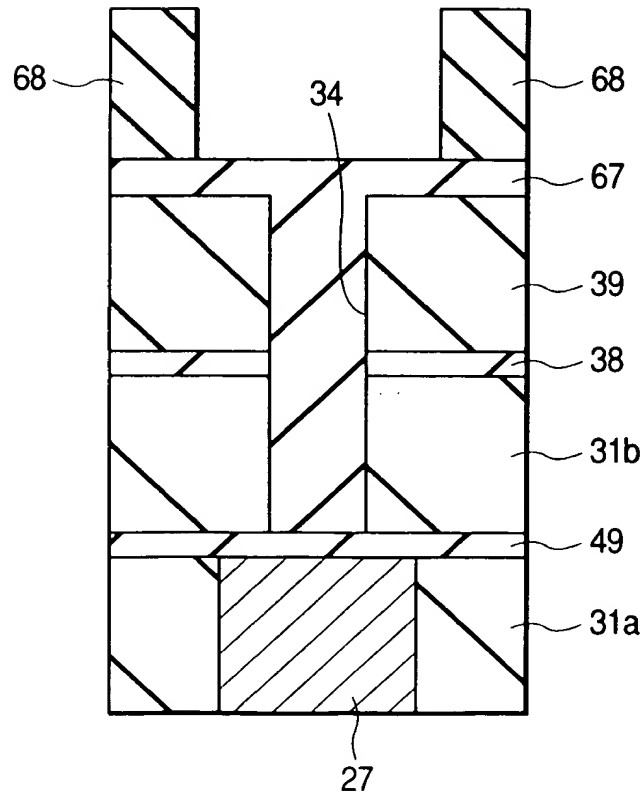
*FIG. 69(b)*



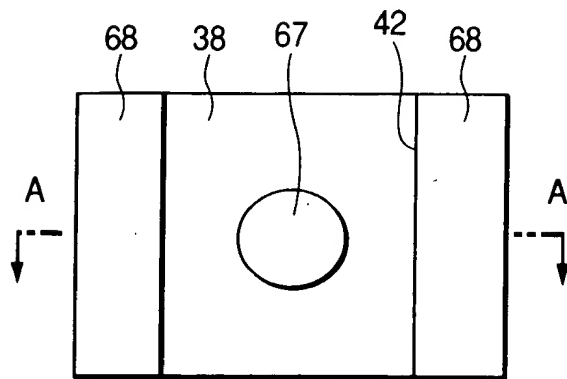
*FIG. 70(a)*



*FIG. 70(b)*



*FIG. 71(a)*



*FIG. 71(b)*

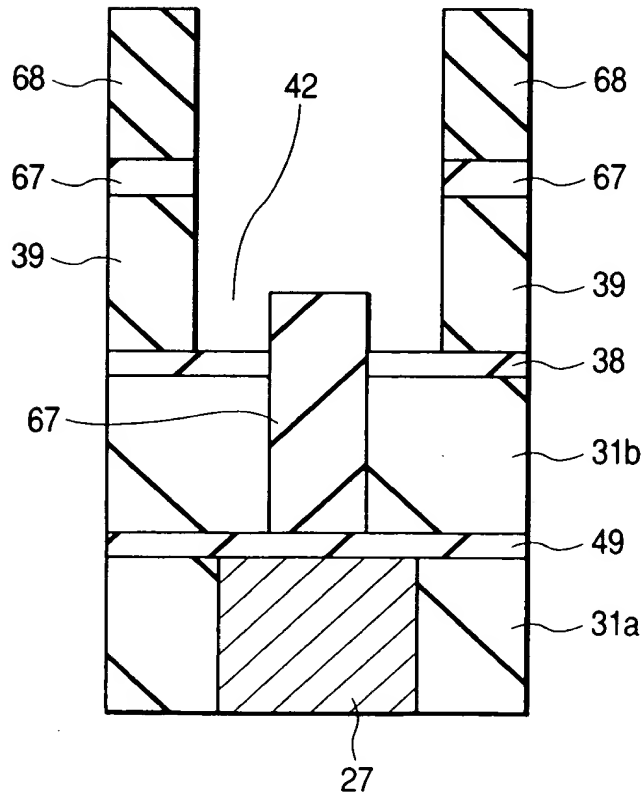


FIG. 72(a)

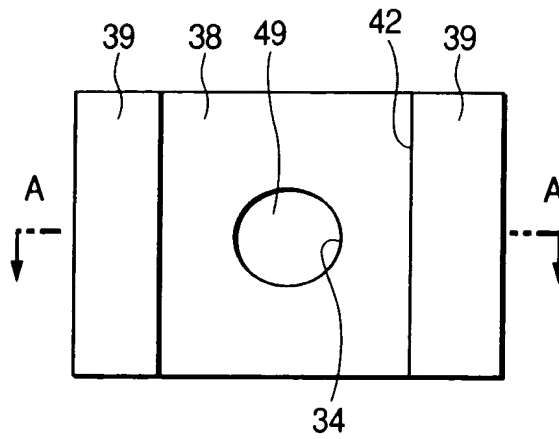
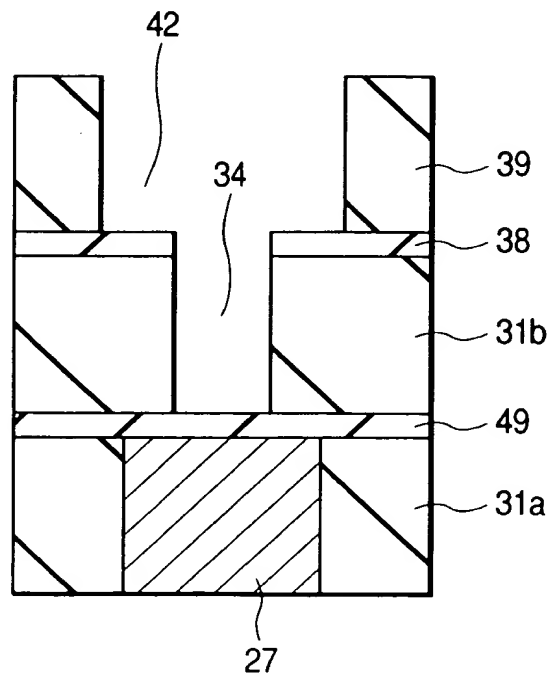
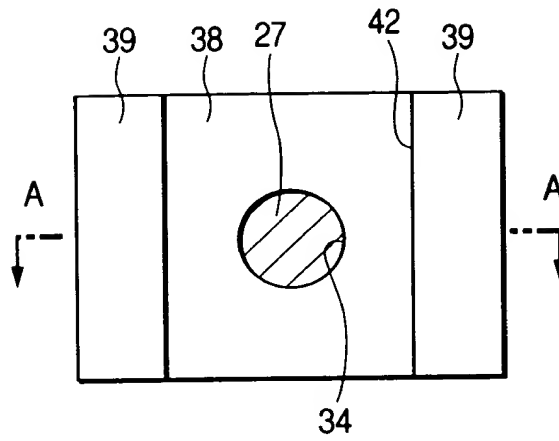


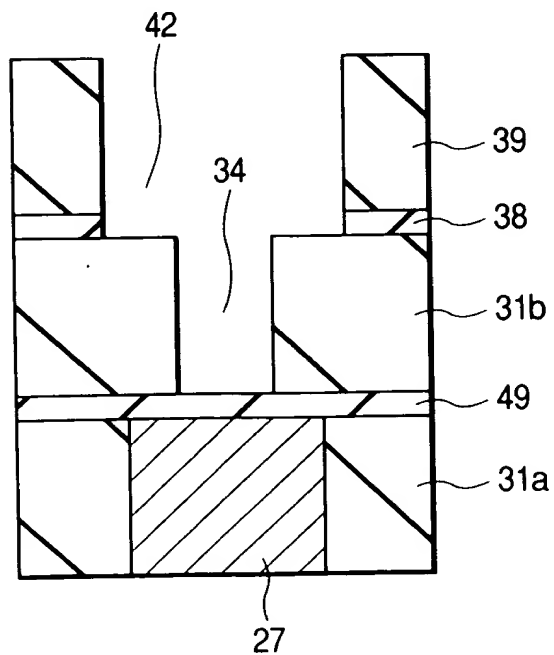
FIG. 72(b)



*FIG. 73(a)*

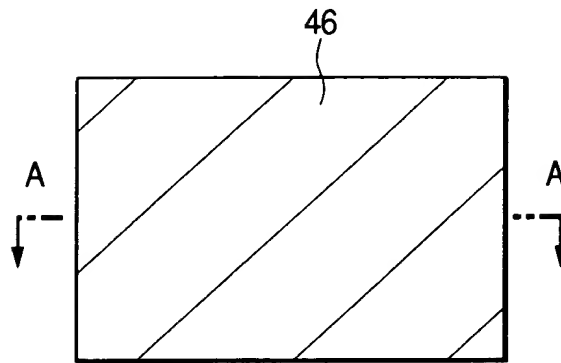


*FIG. 73(b)*

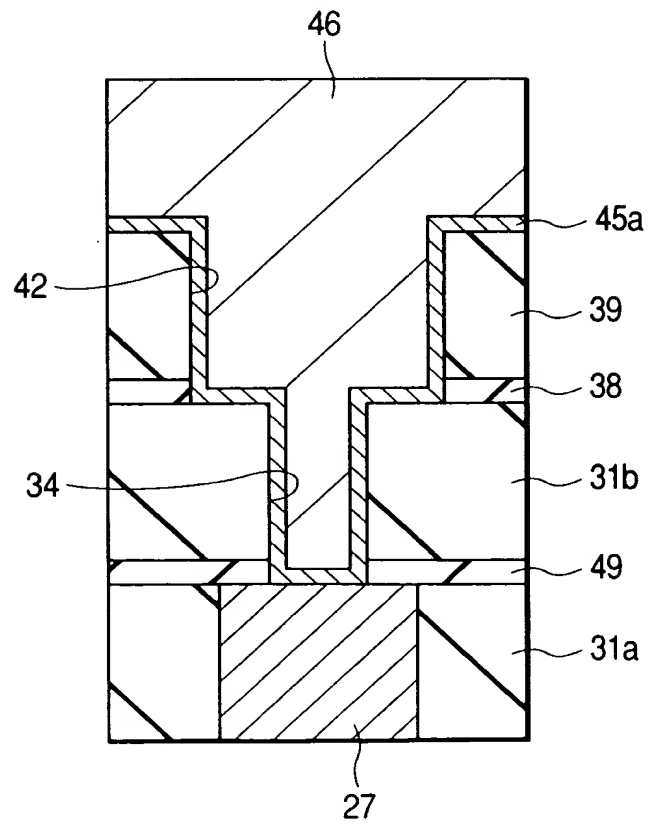




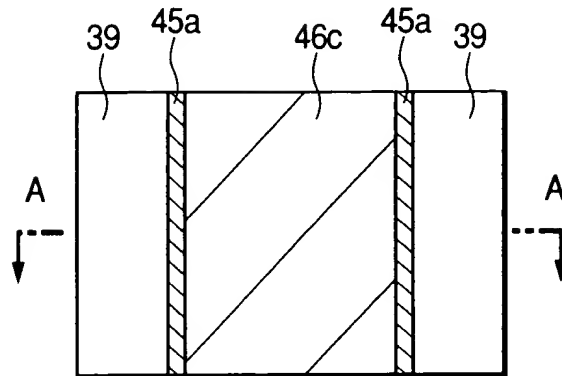
*FIG. 74(a)*



*FIG. 74(b)*



*FIG. 75(a)*



*FIG. 75(b)*

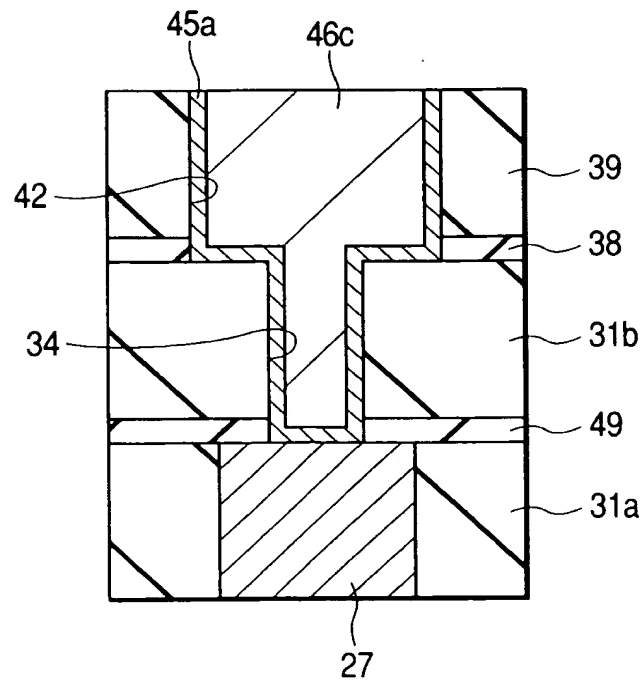


FIG. 76(a)

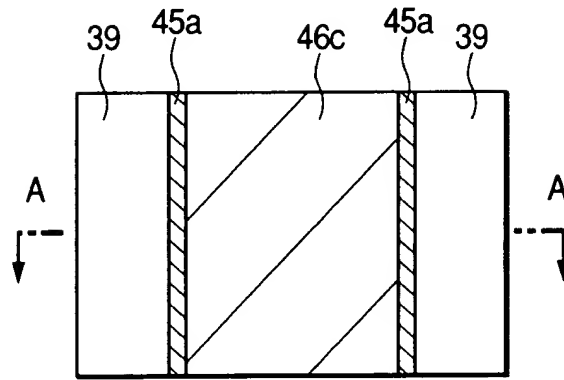


FIG. 76(b)

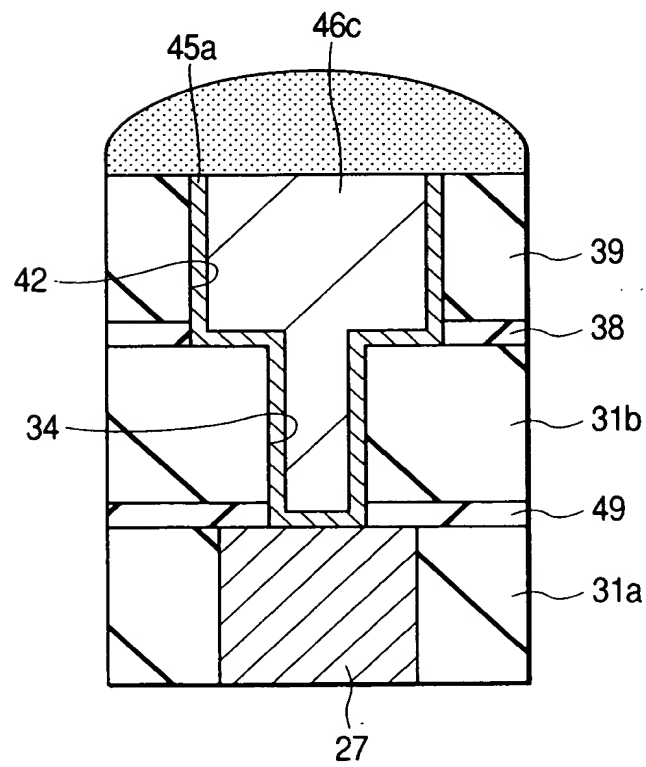


FIG. 77(a)

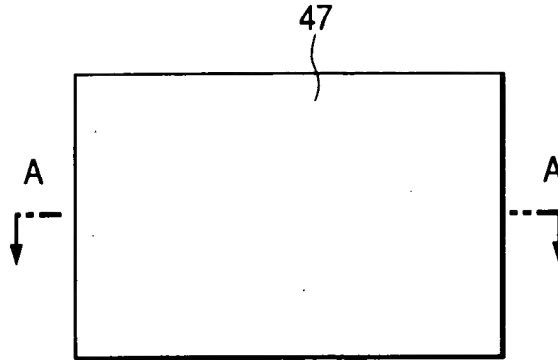
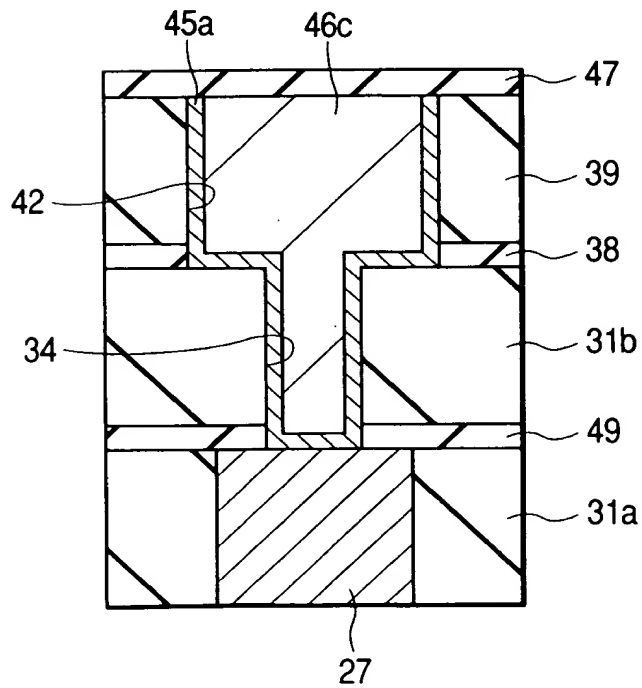
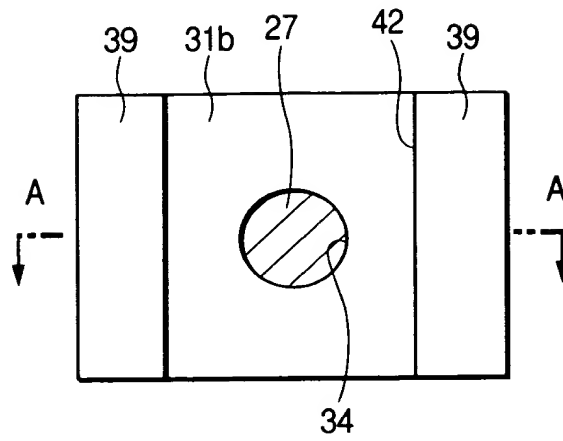


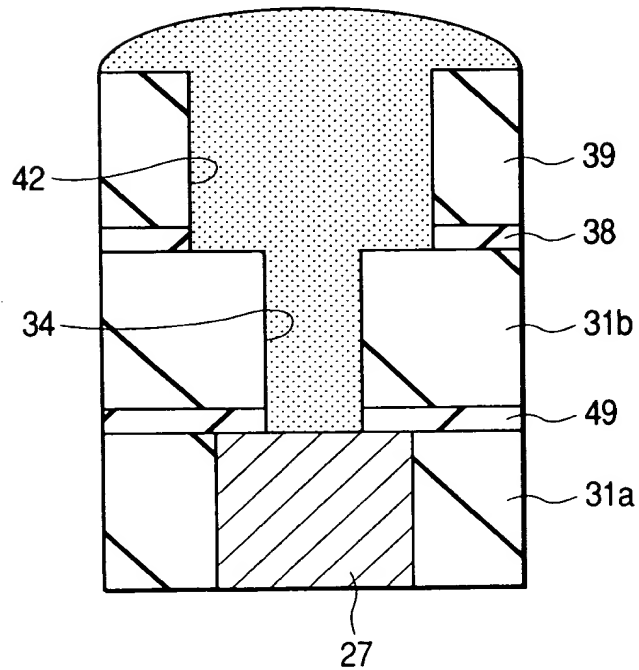
FIG. 77(b)



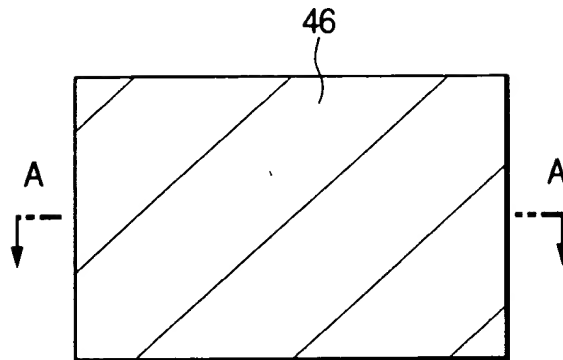
*FIG. 78(a)*



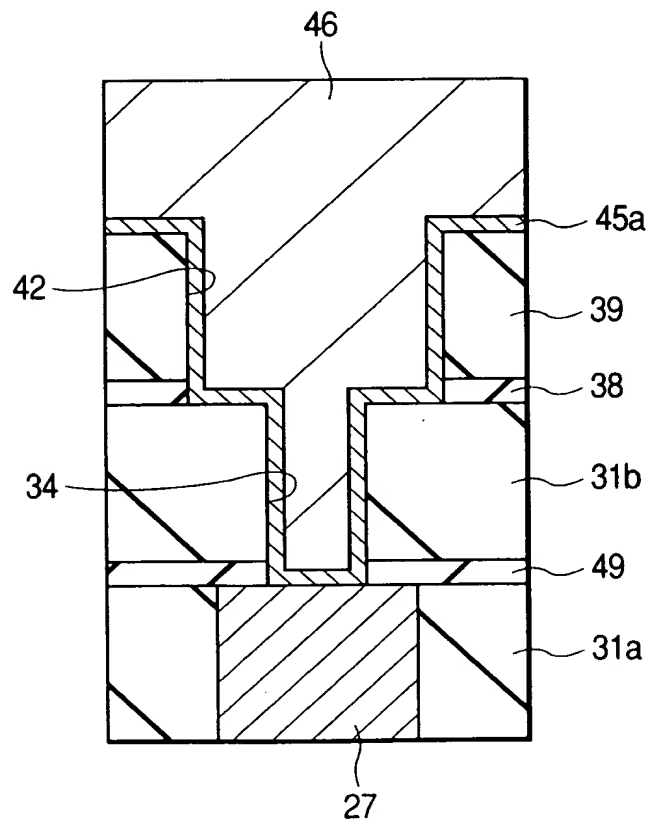
*FIG. 78(b)*



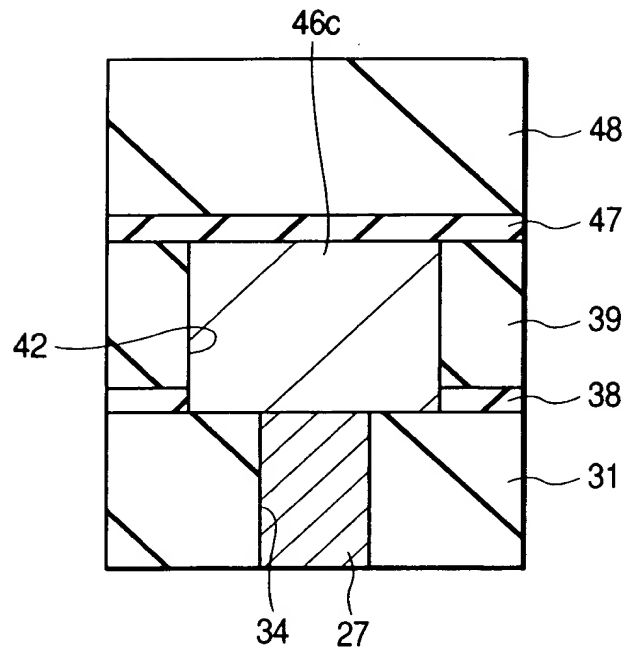
*FIG. 79(a)*



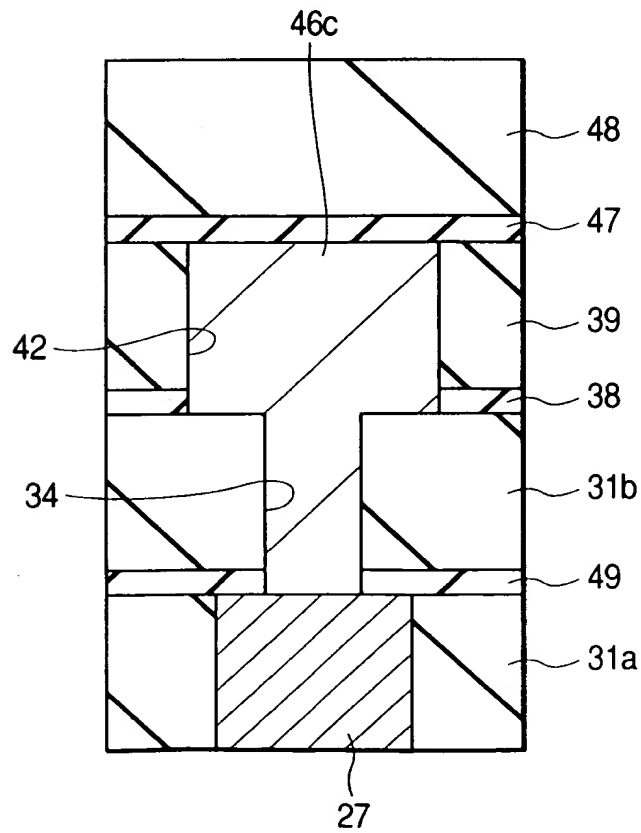
*FIG. 79(b)*



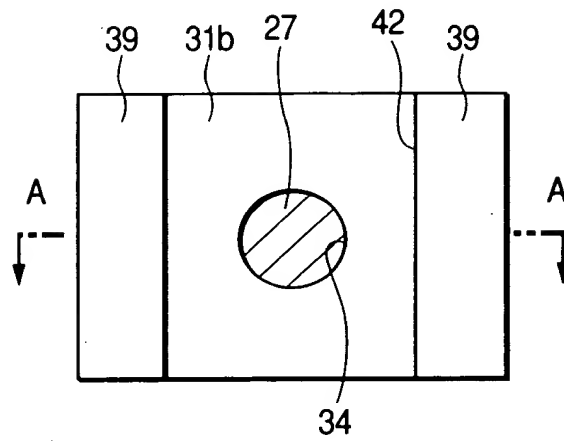
**FIG. 80(a)**



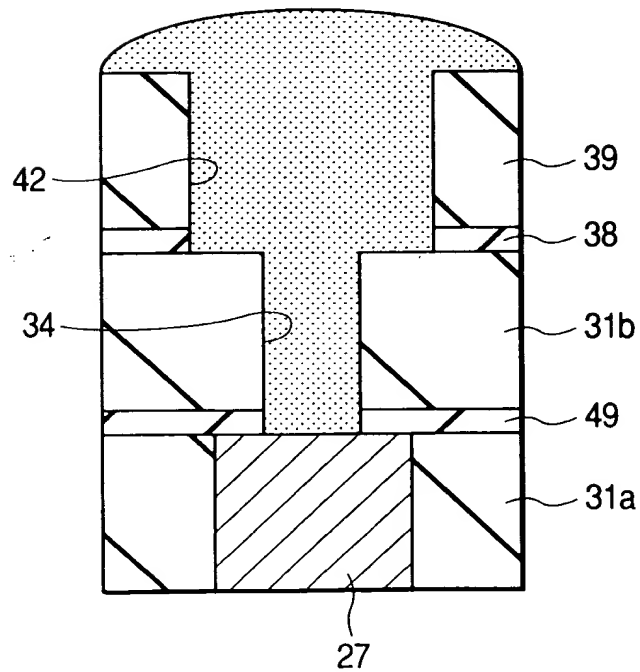
**FIG. 80(b)**



*FIG. 81(a)*

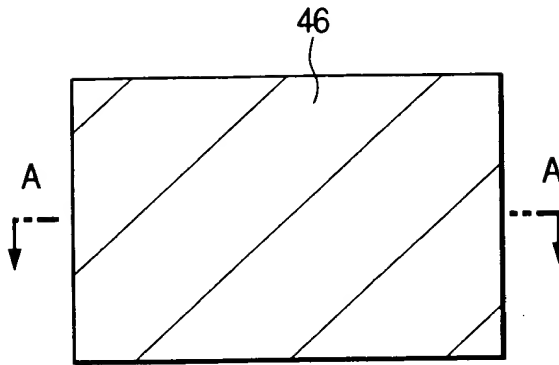


*FIG. 81(b)*





**FIG. 82(a)**



**FIG. 82(b)**

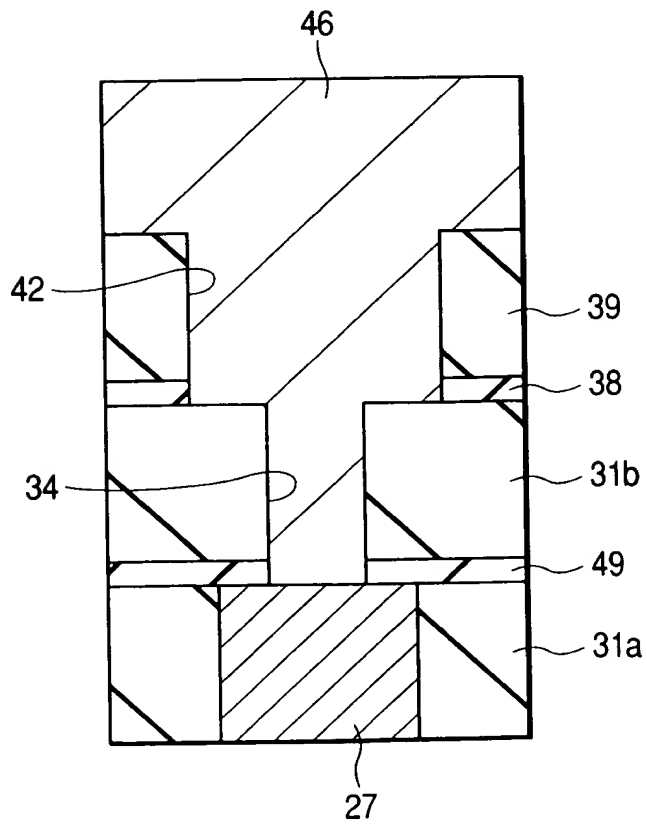


FIG. 83(a)

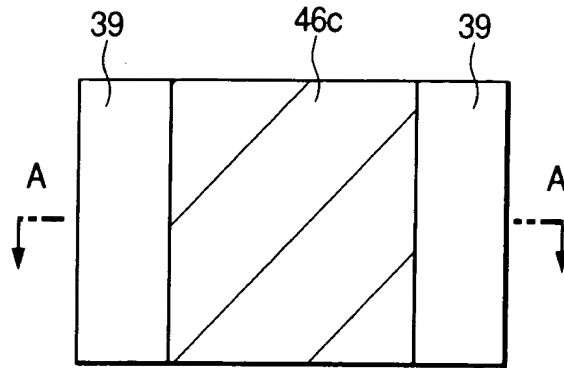
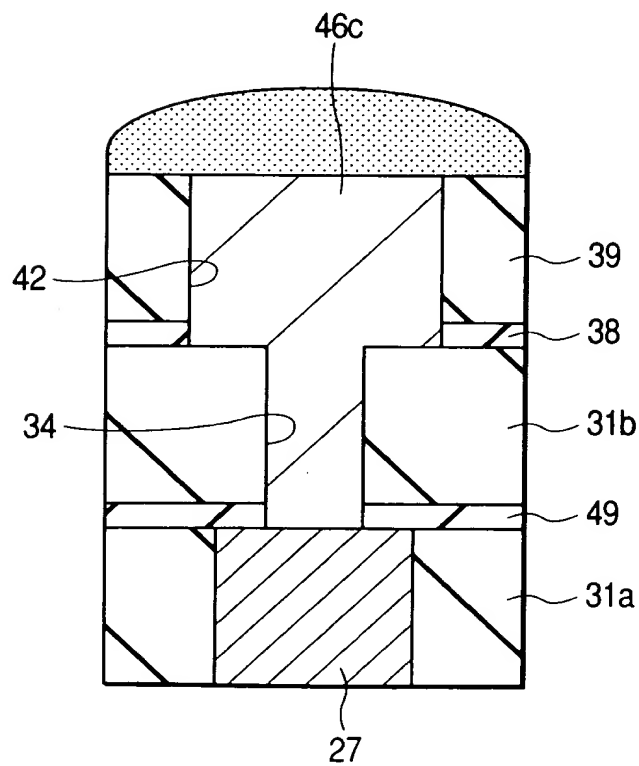
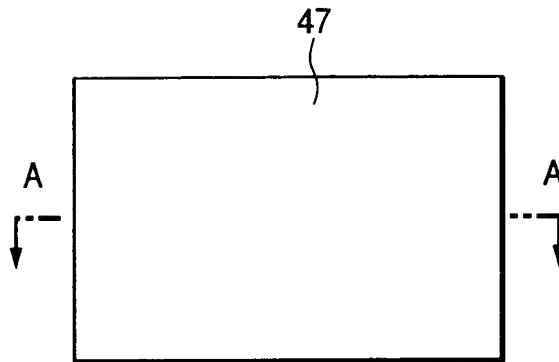


FIG. 83(b)



*FIG. 84(a)*



*FIG. 84(b)*

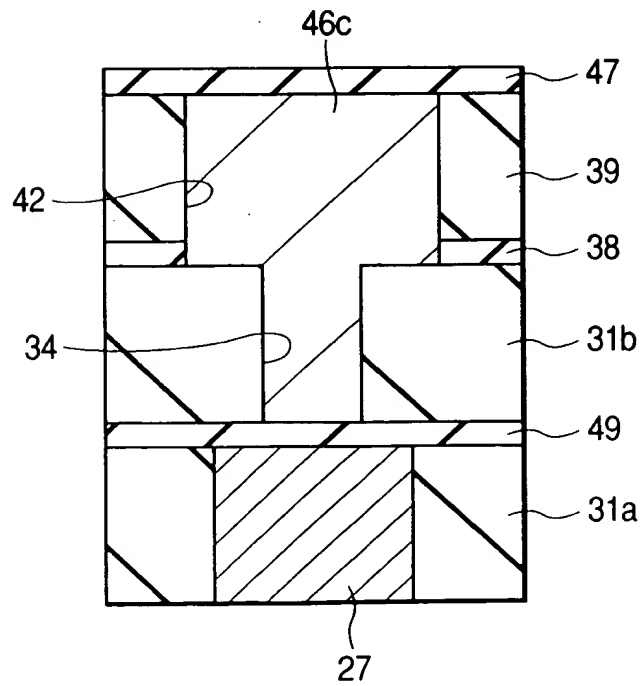


FIG. 85(a)

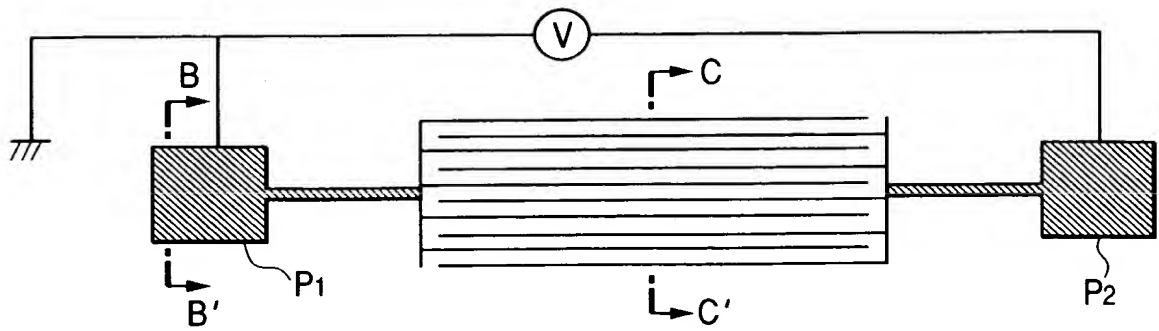


FIG. 85(b)

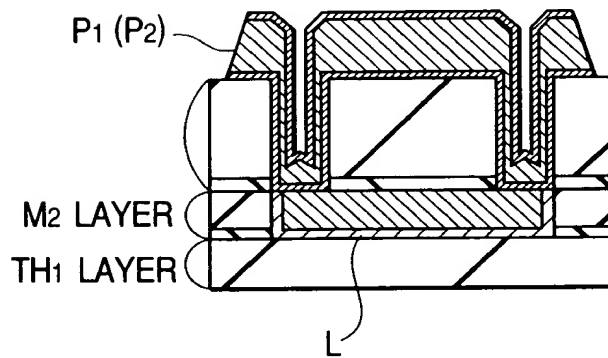


FIG. 85(c)

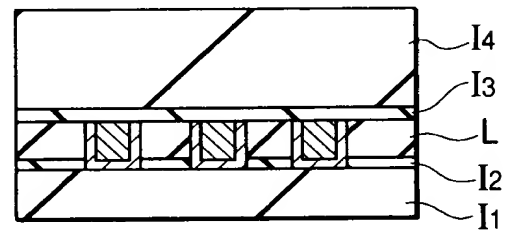


FIG. 86

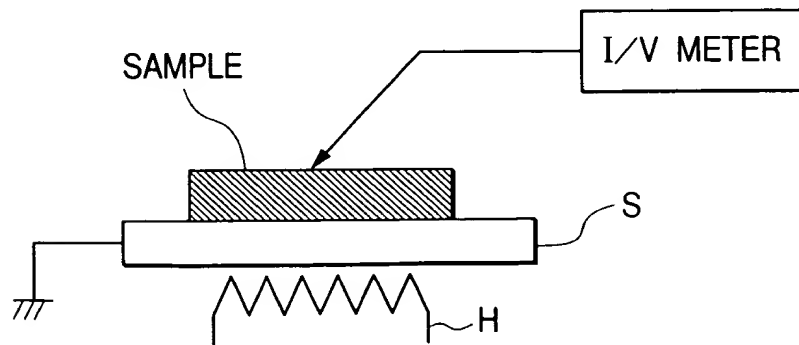
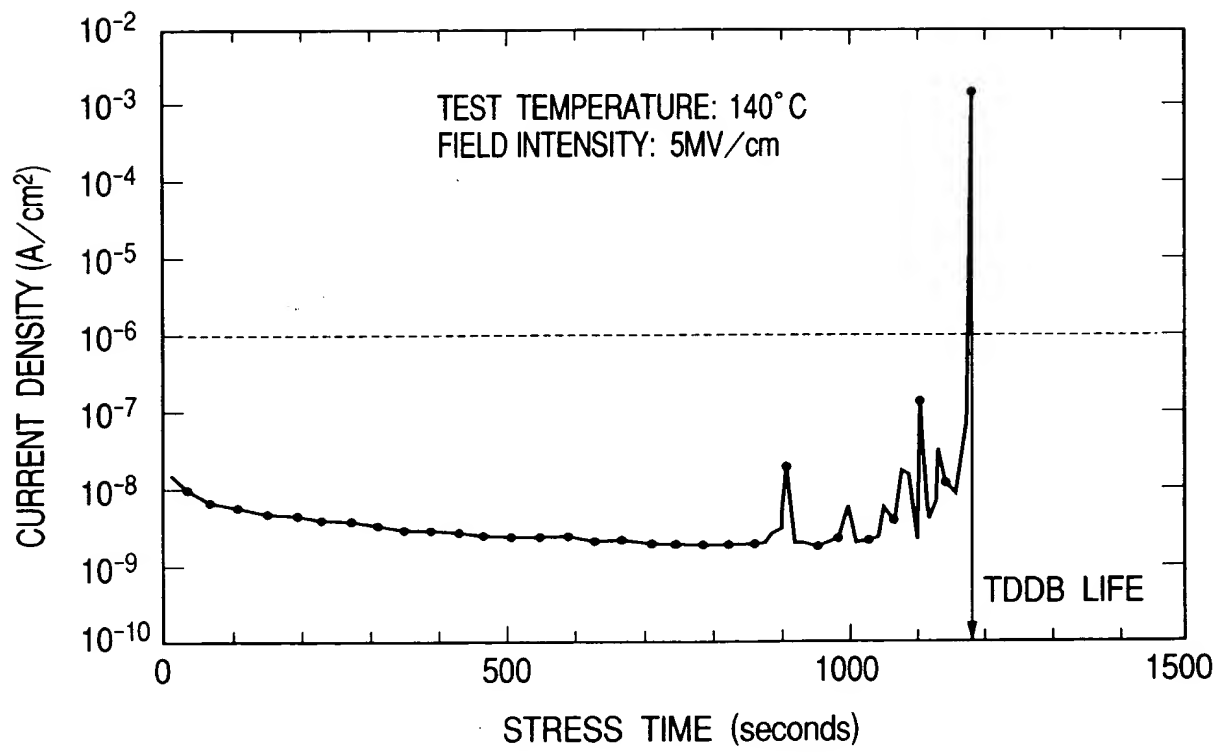


FIG. 87



**FIG. 88**

